

# JOURNAL

OF THE

## AMERICAN VETERINARY MEDICAL ASSOCIATION

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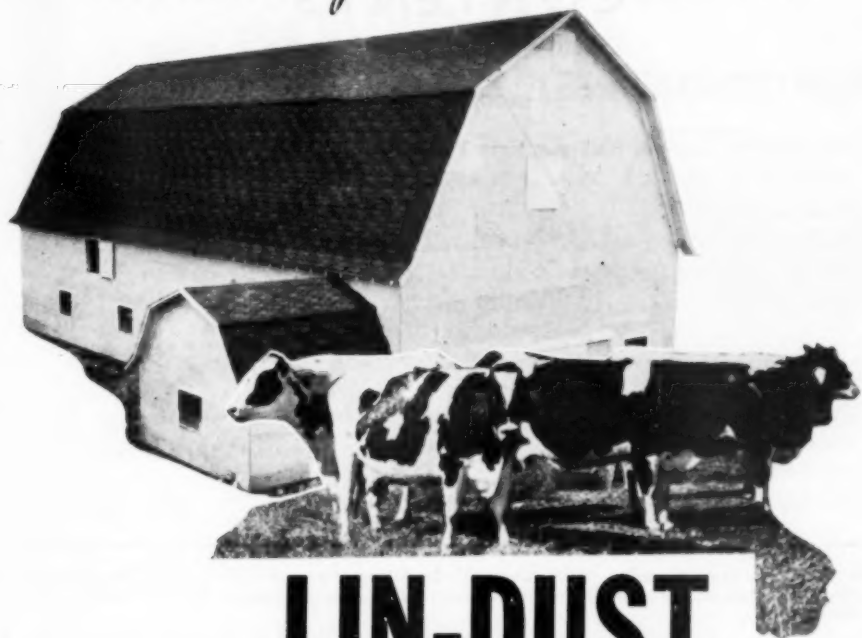
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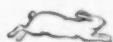
Published monthly at 600 S. Michigan Ave., Chicago, Ill., by the American Veterinary Medical Association. Entered as second class matter August 10, 1932, at the Post Office at Chicago 5, Illinois, under the act of March 3, 1879. Additional entry at Mendota, Ill. Accepted for mailing at special rate of postage provided for in Section 538, act of February 28, 1925, authorized August 10, 1932. Reproduction of any part of this publication is prohibited, unless special permission is given. Permission will be given if the purpose seems justifiable and, in signed articles, if the rights or requests of author are not violated thereby. Reprints should be ordered in advance. Prices will be quoted after publication. Please send prompt notice of change of address, giving both old and new. Advise whether the change is temporary or permanent. Address all correspondence to American Veterinary Medical Association, 600 S. Michigan Ave., Chicago 5, Ill.



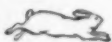
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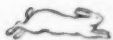
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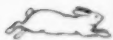
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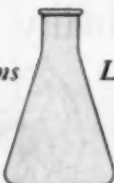
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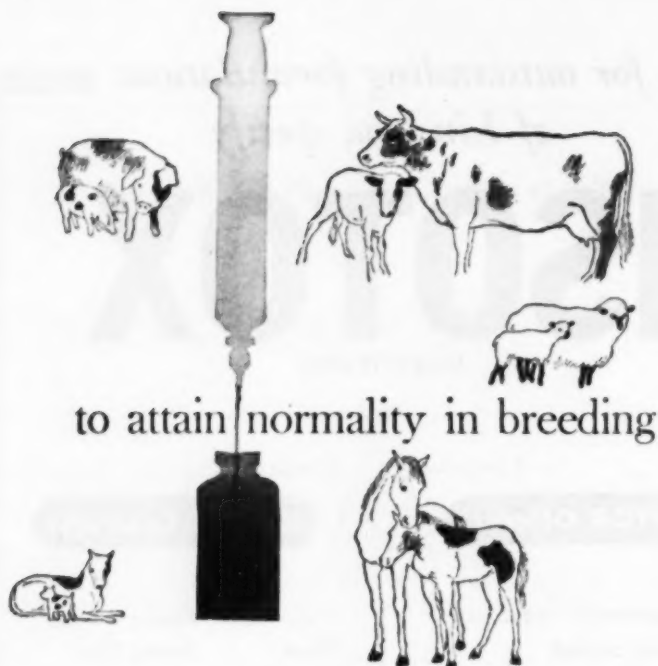
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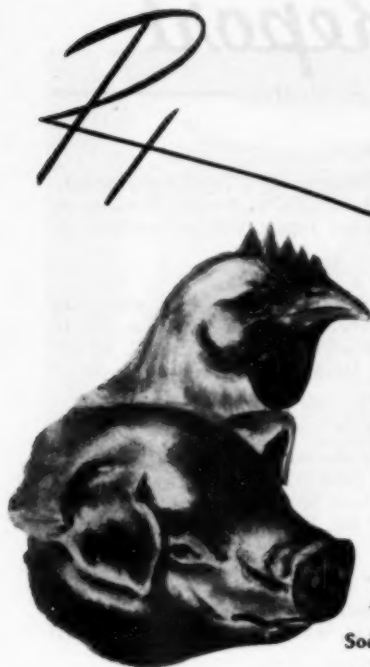
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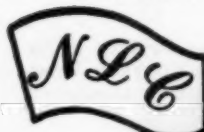
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# AVMA ☆ Report

## Veterinary Medical Activities

### Convention Notes

◆ Brig. General James A. McCallam, V.C., Washington, D. C., was unanimously elected president-elect of the AVMA at the Eighty-Ninth Annual Meeting in Atlantic City, June 23-26, 1952. A more detailed report will be published in the September JOURNAL.

★ ★ ★

◆ The five vice-presidents of the Association for the ensuing year, who were elected at the annual meeting in Atlantic City, are: first vice-president, Dr. L. A. Mosher, Atlanta, Ga.; second, Dr. M. L. Morris, Topeka, Kan.; third, Dr. H. S. MacDonald, Toronto, Can.; fourth, Dr. C. H. McElroy, Stillwater, Okla.; and fifth, Dr. M. Weadon, Washington, D. C.

★ ★ ★

◆ Dr. Harry E. Kingman, Jr., Chicago, Ill., was elected treasurer of the AVMA at the Atlantic City meeting for the ensuing year. He has been serving as treasurer since April 1, 1952, as he was appointed by the Board of Governors at that time to complete the unexpired term of Dr. W. A. Young who resigned when he moved from Chicago to California.

★ ★ ★

◆ Dr. Edwin Laitinen, Hartford, Conn., was elected chairman of the Executive Board to succeed Dr. W. G. Brock, Dallas, Texas, who has served for the past three years.

★ ★ ★

◆ Dr. Adam A. Husman, Raleigh, N. Car., was the recipient of the AVMA award at the annual meeting in Atlantic City.

★ ★ ★

◆ Joe Brown, 14, of Nashotah, Wis., was the winner of the 1952 AVMA Humane Act Award. The award was made because of Joe's rescue of 5 valuable show horses from a fire in the barn where they were stabled.

★ ★ ★

◆ The Research Fund received a big boost almost simultaneously with the "kick-off" by Dr. A. H. Quin at the Opening Session of the Atlantic City meeting when Mr. Frank Bickal, president of the Veterinary Exhibitors' Association, presented a check for \$500 from the Exhibitors' Association.

★ ★ ★

◆ Dr. Ralph B. Little, Princeton, N. J., research associate at the School of Veterinary Medicine, University of Pennsylvania, and also on the staff of the Rockefeller Institute, was awarded the \$1,000 Borden award and medal at the Eighty-Ninth Annual Meeting in Atlantic City.

★ ★ ★

◆ The Twelfth International Veterinary Congress Prize was awarded to Dr. Charles E. Cotton, Minneapolis, Minn., a past-president of the American Veterinary Medical Association and also of the U. S. Livestock Sanitary Association.

★ ★ ★

◆ The Atlantic City meeting, June 23-26, 1952, proved to be the largest coast meeting of the Association yet to be held, with a registration of 2,613.

★ ★ ★

◆ The closed-circuit television demonstrations again proved to be a highlight of the convention at Atlantic City. Pictures and a more detailed report of the demonstrations will be published in the JOURNAL and the "Proceedings Book."



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\*Noland, P. R.; Tucker, D. L., and Stephenson, E. L.: Subcutaneous Implantation of Bacitracin in Pellet Form to Stimulate Growth of Suckling Pigs. Station Bulletin, Report Series 34, University of Arkansas, Fayetteville.



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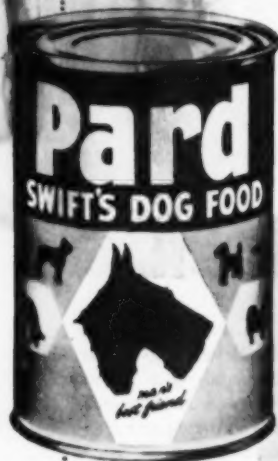
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1. BLAMEY, E. R. *Coagulation in Seeping Hemorrhage—Evaluation of Koagamin, New to the Veterinary Field*. J. Am. Vet. M. A. 119:291. 1931.



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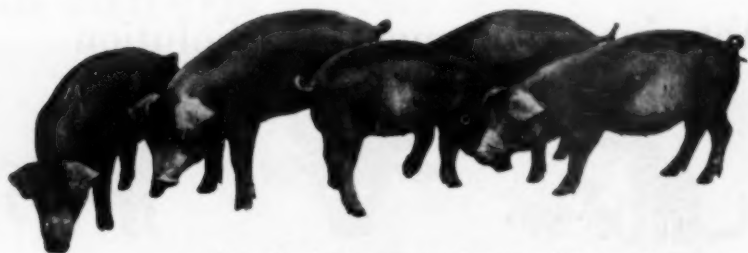
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1. Smith, L. W., and Livingston, A.E.: *Am. J. Surg.* 62:358, 1943.

2. Schaffer, J. D.: *North Am. Vet.* 31:817, 1950.

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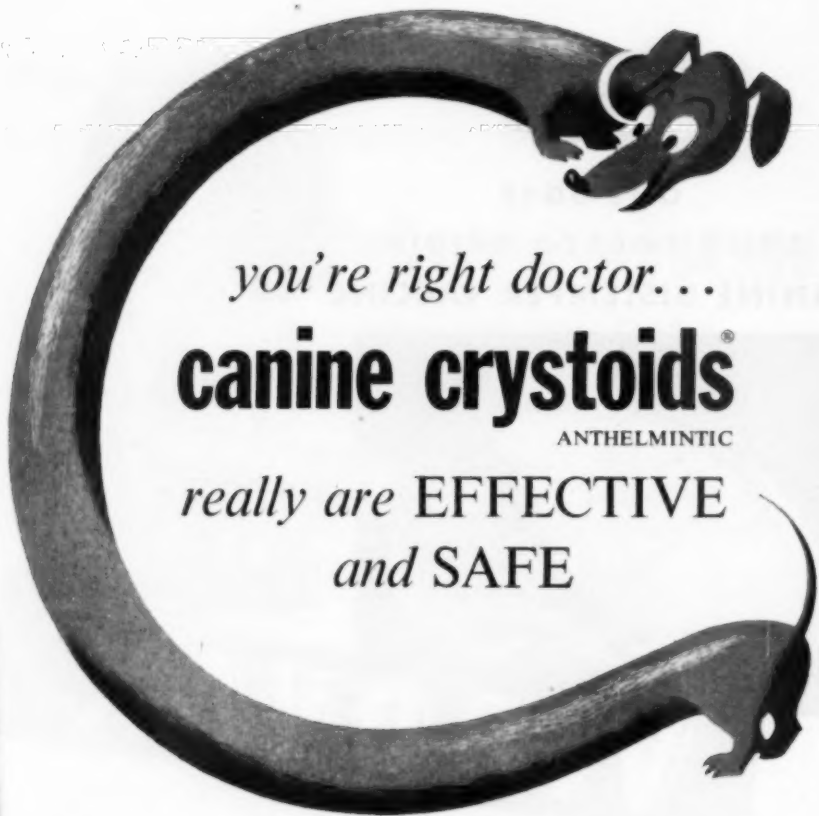
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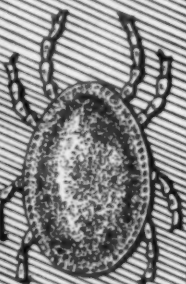

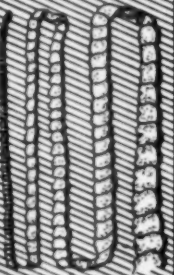
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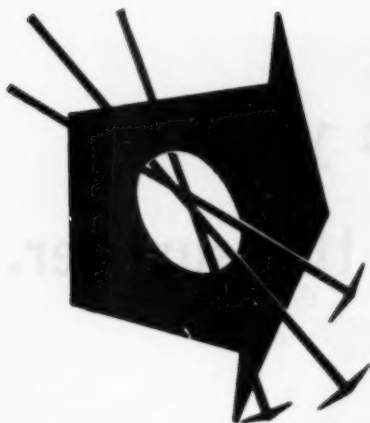
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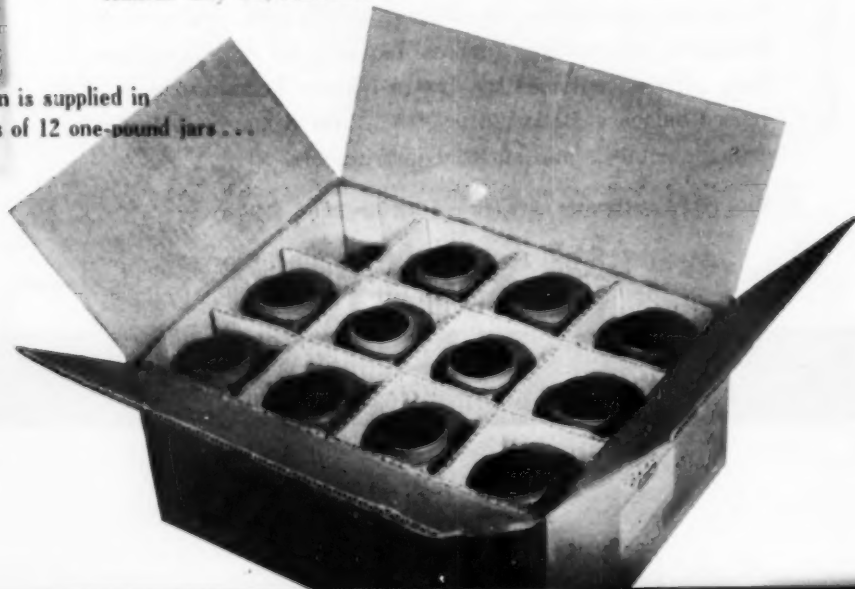
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# Journal of the American Veterinary Medical Association

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VOL. CXXI

AUGUST, 1952

No. 905

## Aplastic Anemia of Cattle Associated with Ingestion of Trichloroethylene-Extracted Soybean Oil Meal (Stockman Disease, Duren Disease, Brabant Disease)

### II. Necropsy Findings in Field Cases

J. H. SAUTTER, D.V.M., Ph.D.; C. E. REHFELD, B.S., D.V.M.; W. R. PRITCHARD, D.V.M.

*St. Paul, Minnesota*

THIS REPORT deals with the necropsy findings in 13 cases from eight herds of cattle in Minnesota. The observations in this paper are representative of more cases in which essentially the same findings were noted.

The clinical and laboratory findings are reported in an accompanying paper, "I. Clinical and Laboratory Investigations of Field Cases" (*J.A.V.M.A.*, July, 1952:1-8). Reference to reports in the literature dealing with the subject are also given in the above cited paper.

#### GROSS AUTOPSY FINDINGS

Animals examined at necropsy were usually in fairly good flesh. Hemorrhages from the nostrils and anus were frequently present.

When the skin was reflected petechial, ecchymotic, suffusion, and occasionally paint brush hemorrhages were observed in the subcutaneous tissues.

**Abdominal Cavity.**—The most striking autopsy findings in most instances were encountered when the abdominal wall and thoracic cage were reflected and removed. Numerous hemorrhages were noted on the body walls, omentum, mesenteries, and serosal surfaces of the intestines. Ad-

hesions between the intestine and abdominal wall or to neighboring loops or structures were frequent. The gall bladder walls were thickened and both surfaces were always hemorrhagic. (See table 1 for summary of gross necropsy findings.)

The livers contained hemorrhagic infarcts of varying sizes and numbers, or discrete foci of necrosis in 77 per cent of the cases.

**Digestive System.**—Extensive hemorrhages of the interior of the rumen and reticulum were noted in 4 cases. The serosal surfaces of these organs were hemorrhagic. Sections of the wall showed a slight thickening with a serohemorrhagic exudate. Lymph nodes draining these structures were markedly enlarged, edematous, and sometimes hemorrhagic.

The plicae and the contents of the omasum were hemorrhagic in one instance but the omasal wall in 6 cases was markedly thickened with a yellow gelatinous exudate (fig. 1). Adjacent lymph nodes were enlarged several times, yellowish red, and edematous.

**Abomasum.**—The true stomach was hemorrhagic in 69 per cent of the autopsies, with frank ulcers in 15 per cent and erosions in 23 per cent (fig. 2). The remainder of the mucosa in most instances appeared normal. The walls of the involved stomachs were thickened with a serohemorrhagic exudate.

Paper 2838, Scientific Journal Series, Minnesota Agricultural Experiment Station.

From the School of Veterinary Medicine, University of Minnesota, St. Paul.



Fig. 1—Omasum with thickened wall containing gelatinous exudate and enlarged lymph node. The plicae are hemorrhagic.

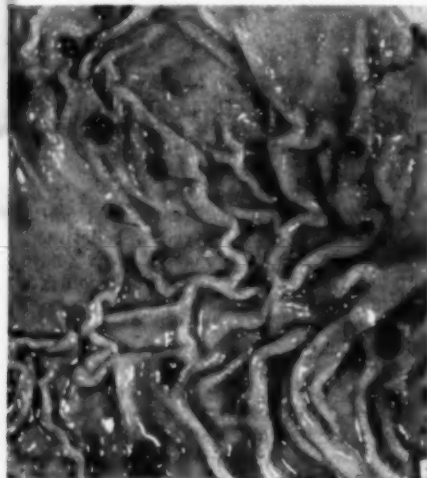


Fig. 2—Ulcers, erosions, and congestion in abomasum.

**Small Intestine.**—In the autopsies presenting the most advanced lesions, the small intestine contained ulcers usually situated in groups at varying intervals along the tract (fig. 2, 3, and 4). The ulcers averaged 3 cm. in diameter and had raised, concentric, fibrinous rings which were easily detached. These ulcers appeared to represent the most advanced type lesion, others were smaller and had hemorrhagic craters or slight amounts of fibrin at their edges. The serosal surface over these areas was hemorrhagic and the outline of the advanced type of ulcer could be easily identified when viewed from the serosal surface (fig. 4). Adhesions in these areas were common. Fragments of blood clots were frequently encountered in the ulcerous portions. The mucosa in the unaffected portions of tract appeared normal although occasional petechial and ecchymotic hemorrhages were noted.

**Large Intestine and Cecum.**—Practically the same changes described in the small intestine were observed in the large intestine and cecum, except in the case of 1 animal which had an intussusception which had existed for an estimated twelve hours before death. The telescoping appeared due to inability of peristaltic movements to move a large fibrin-covered ulcer which obstructed the lumen. Clots of blood, 1 to 2 meters long, were encountered on several occasions (fig. 5). The source of the blood was small recent ulcers and erosions.

**Liver and Gall Bladder.**—The liver was involved in varying degrees in 77 per cent of the cases, the extent apparently depending on the age of the animal and duration of illness. The most advanced lesions were infarcts measuring up to 8 cm. in diameter (fig. 6 and 7). They were dark red, firm, and raised slightly above the surface. On section, the infarcts extended into the liver parenchyma about the same depth as their diameters (fig. 7). The liver parenchyma away from the infarcts had many small, irregularly shaped yellow areas which, histologically, proved to be necrosis (fig. 7).

Livers from young animals did not all show the rather remarkable findings; instead, the lesions were fewer and smaller, and necrosis was less extensive.

The gall bladders were consistently enlarged, the walls were thickened with confluent subserosal and submucous hemorrhages. The bile was thick and in some cases blood-tinged. The ducts were patent.



Fig. 3—Ulcers in small and large intestine. The raised margins are fibrin.



Fig. 4—Ulcers in small intestine. The dark areas in the unopened portion represent ulcers.



Fig. 5—Blood clot in large intestine.

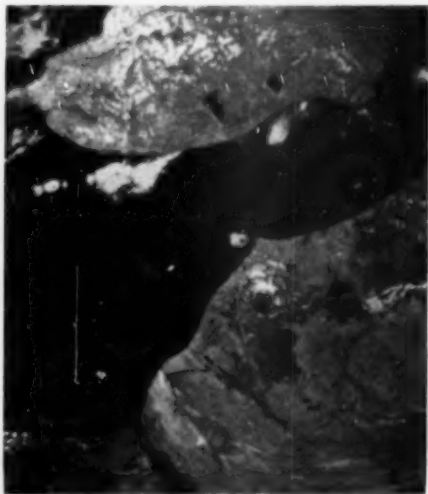


Fig. 6—Autopsy showing infarcts in liver and hemorrhages in omentum and lungs.

**Spleen and Lymph Nodes.**—Petechial hemorrhages were present on the splenic capsule but the organs appeared normal in size and consistency. Lymph nodes draining the involved areas were enlarged, in many instances about six times their normal size. On section, they were yellowish red, juicy, and usually devoid of grossly

identifiable follicles. Many had subcapsular and central hemorrhages.

**Genito-Urinary System.**—The kidneys showed subcapsular petechial hemorrhages in 62 per cent of the cases. The capsule stripped easily and on section no abnormalities were evident. The urinary bladder was hemorrhagic in 54 per cent of the cases

and in one instance the urine was bloody. The uterus showed petechia in only 15 per cent of the cases. The amniotic fluid in a thirty-day pregnancy was blood-tinged and hemorrhages had occurred on the skin of the fetus.

**Thoracic Cavity.—Respiratory System.**—The only lesions of the lungs thought due to this disease were petechial and ecchymotic hemorrhages on the pleurae and in the lung parenchyma. In almost every case, a few triangular or rhomboid-shaped hemorrhagic areas were visible. These were due to blood escaping along the septa, resulting in the well-defined borders. The trachea and bronchi were frequently hemorrhagic. The lungs in 1 case contained several small, well-encapsulated abscesses; in another, the lungs were involved in a secondary bronchopneumonia.

Hemorrhages of various sizes were present on the thoracic walls.

The mucosa of the nasal cavities and turbinates were congested with frequent hemorrhages and clots. Frequently, mucosal erosions extended from the muzzle into the nostrils.

**Cardiovascular System.**—Hemorrhages on the pericardium were frequent. The

heart in every case showed extensive hemorrhages on both epicardial and endocardial surfaces. The auricles were the frequent site of massive subendocardial hemorrhages. On section, some of the hemorrhages penetrated deep into the musculature. Petechia were frequently seen on both surfaces of the aorta.

**Central Nervous System.**—The cerebrospinal fluid was bloody and petechial hemorrhages were present in the brain in 46 per cent of the autopsies.

**Bacteriology.**—Bacteria were frequently isolated from the visceral organs. Species found were Micrococci spp. and *Corynebacterium* spp. Stains of the tissue by Gram's method revealed masses of short, chain, gram-positive cocci, and in other tissues, gram-positive short, plump rods.

*Corynebacterium pyogenes* was isolated from the caruncle and fetus of 1 pregnant cow. There was no marked inflammatory

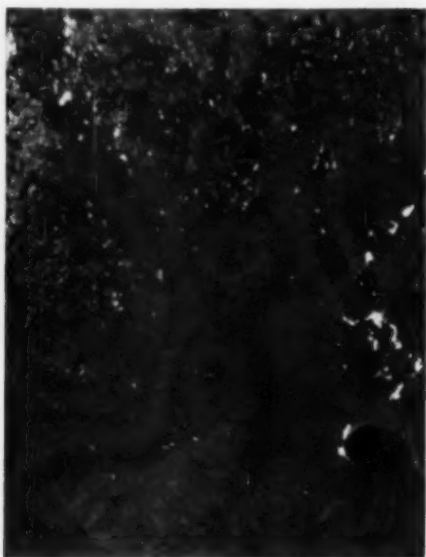


Fig. 7.—Infarct in liver. The small light areas are necrosis.



Fig. 8.—Thrombosed vein in portal space of liver, x 100.

reaction around these masses, which suggests a possible terminal entrance of the organisms.

#### HISTOPATHOLOGY

Hemorrhage and necrosis were the predominating lesions. In addition to free blood in the tissues, capillaries were markedly dilated around involved areas. Necrosis was widespread in the liver and diseased areas of the digestive tract. Fibrosis was marked around bile ducts, in the lungs, and in the wall of the digestive tract.

The large infarcts or infarct-like lesions in the liver consisted of hemorrhage and necrosis. In many instances, colonies of bacteria could be easily identified. Polymorphonuclear leukocytes varied in number in liver and gut lesions, probably depending on the species of bacteria present; however, the number was never great. In areas of the liver away from the infarcts, irregular patterns of centralobular necrosis were frequently present. One liver showed a patchy-type, fatty metamorphosis. Coagulation necrosis and rupture of blood vessel walls were common and in many in-

stances a marked connective tissue proliferation of bile ducts was noted.

Changes in the gastrointestinal tract were basically the same, *i.e.*, hemorrhages and necrosis. Edema was noted beneath the serosal tissues, and colonies of bacteria were often seen in the mucosae and submucosae. In tissue near an ulcer or erosion, the mucosa was necrotic with a minimum of

TABLE 1—Summary of Gross Autopsy Lesions in 13 Necropsies

Site of lesion	Type of lesion			
	Hemorrhages	Ulcers	Erosions	Infarcts
Subcutaneous	13 (100%)			
Pleurae, mesenteries	13 (100%)			
Rumen	4 (30%)		1 (7%)	
Omasum	6 (46%)			
Abomasum	9 (69%)	2 (15%)	3 (23%)	
Small intestine	12 (92%)	6 (46%)	3 (23%)	
Large intestine	8 (61%)	5 (40%)	3 (23%)	
Liver				10 (80%)
Gall bladder	13 (100%)			
Spleen	11 (84%)			
Kidney	8 (61%)			
Urinary bladder	7 (54%)			
Uterus	2 (15%)			
Lungs	13 (100%)			
Heart	13 (100%)			
Brain	6 (46%)			
Cerebral spinal fluid	6 (46%)			

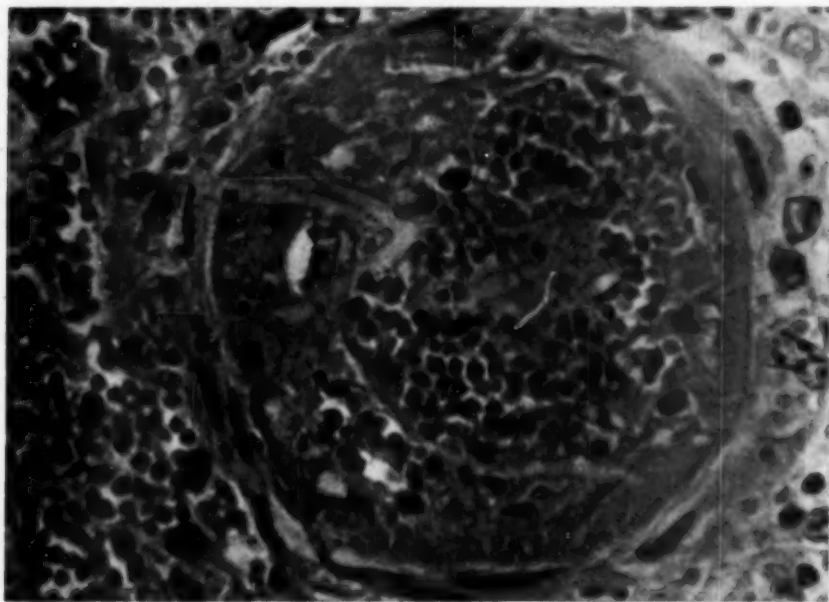


Fig. 9—Necrotic arteriole in intestinal wall, x 350. Vessel contains erythrocytes, endothelial cells, and fibrin. Note perivascular hemorrhage.



inflammatory reaction. In grossly normal tissue, the tips of the villi contained numerous lymphocytes and mononuclear cells.

The walls of the arterioles and vessels showed various changes. One of the early lesions was a swelling of the endothelial cells which was followed by coagulation necrosis (fig. 9). Some of the small necrotic vessels appeared as rosettes and in many instances ruptured, allowing blood to escape (fig. 10). As the vessel became necrotic and ruptured, connective tissue started proliferating into and around the vessel (fig. 8, 9, and 10). Most sections of the gut, liver, lung, and lymph nodes showed this rather marked fibrosis.

Grossly, the lung showed various sizes of hemorrhages. Microscopically, there were necrotic vessels, hemorrhage, and connective tissues (fig. 10). These changes were always associated with the arterioles and venules in the interlobular spaces.

The heart presented the same findings except that less perivascular fibrosis had occurred. In one instance, considerable hemorrhage was present around the bundle of His and atrophy and degeneration of cardiac muscle was observed in several cases. Germinal centers of the spleen were

atrophic and most were represented by a small aggregation of lymphocytes. Mononuclear and reticular cells dominated the fields. Many hemosiderin-laden macrophages were present. Lymph nodes presented much the same picture. The normal structure was altered by atrophic follicles, increased reticular proliferation, and mononuclear cells. Occasional necrotic vessels and hemorrhage were also present.

The kidneys were not involved to any great extent. A few were congested, and 30 per cent showed interstitial round cell infiltrations.

The adrenal, pancreas, and pituitary glands showed occasional petechial hemorrhage and frequent congestion.

Sections of brain were congested and showed an occasional hemorrhage. A few glial plaques were present in one case.

#### BONE MARROW

Bone marrow studies were necessarily not as complete as might be desired due to the inherent difficulty of obtaining uniform and representative tissue. Postmortem changes rendered many unsuitable.

The bone marrow was in various stages

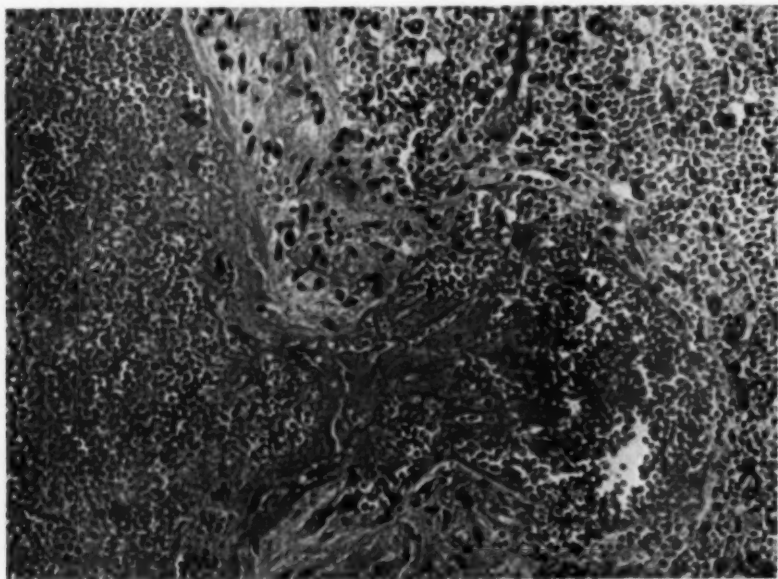


Fig. 10—Portion of a blood vessel wall in lung,  $\times 100$ . Note the ruptured wall, fibrin, congestion, hemorrhage, and connective tissue proliferation.

of hypoplasia which in some cases had progressed to a completely aplastic condition. Elements of the lymphocytic series were present in reduced numbers. In the granulocyte series, eosinophils and basophils were present but infrequent, neutrophils were also scarce but were seen in almost every stage of immaturity and maturity. Megakaryocytes were infrequent and no accompanying megakaryoblasts were found.

In the erythrocyte series, the immature cells were usually of the megaloblastic type and frequently the nucleus and cytoplasm were in different stages of maturity.

#### SUMMARY

1) The gross and microscopic findings in 13 naturally occurring cases of trichloroethylene-extracted soybean oil meal poisoning in cattle are summarized.

2) From the tissues studied, the major changes appear to be necrosis of arterioles and small vessels, thrombosis, rupture, and fibrosis. Some of these findings may be accentuated by secondary invasion of bacteria through breaks in continuity of the intestinal mucosae since various bacteria were isolated from the tissues.

3) Smears and sections of bone marrow present, in general, the picture of aplastic anemia.

#### Livestock Conservation, Inc., Publishes "Task Force" Leaflets

Definite programs for reducing livestock losses of an estimated \$800,000,000 or more a year are outlined in a series of "task force" leaflets for groups cooperating with Livestock Conservation, Inc. The main office is in the Exchange Building, Union Stock Yards, Chicago, with Dr. J. R. Pickard as general manager.

Among the action programs is one adopted by producers of meat animals, dairymen, livestock organizations, and farm organizations—task forces 1, 7, 10, and 11.

Bruising, crippling, and death of animals enroute from farm to market also exacts an annual toll of about \$50,000,000. Cattle grubs alone cost the nation's cattlemen more than \$100,000,000.

Separate programs, developed by livestock trucker and railroad groups (task force leaflets 2 and 3), emphasize instruct-

ing railway and trucking personnel regarding proper procedures in handling livestock:

Haste makes bruises. Loading chutes, different handlers riding in vehicles, and strange lots are new experience to animals. Undue haste increases their nervousness, results in lunging and crowding, and is one of the greatest causes of bruising. Two-thirds of bruises in cattle are traced to rushing, crowding, and trampling. Two-thirds of bruise losses in hogs are due to the use of canes, clubs, kicking, and prodding.

All groups cooperating in this program will be urged to educate their employees on bruise losses and to caution them repeatedly to avoid practices which result in bruises or other injuries. These include: rushing or crowding livestock through chutes, alleys and gates; mixing incompatible animals or bulls, boars, and stags with others; and improper use of whips, canes, prods, and slappers.

#### Outbreaks of Anthrax

The Bureau of Animal Industry, United States Department of Agriculture, announced on June 9 that anthrax had occurred in 19 states during April and May. A total of 330 outbreaks in 153 counties were reported. Indiana (108 outbreaks), Ohio (87), Illinois (61), Michigan (31), New Jersey (11), and Kansas were the states most affected. The Indiana losses from anthrax were heavy but were not estimated. Kansas, with 150 cattle and 60 sheep dead, was the heaviest loser but did not report the number of farms affected. The total losses reported include 232 cattle, 381 swine, 79 sheep, 56 mink, and 2 mules. Eighty-five per cent of these losses were reported from seven cornbelt states (not including Indiana).

The suspected sources of infection were: contaminated feeds—probably 280 outbreaks; infected premises—18 outbreaks; dead animals used as feed—2 (1 in mink); and vaccination infection—several herds in Kansas.

The objectives in treating acetoneemia are to increase blood sugar, to build up the glycogen in liver, to reduce ketosis, to stimulate the digestive system, and to combat dehydration.—*J. Sampson, D.V.M., University of Illinois, in Iowa Vet., May-June, 1952.*



## Plans of a Large and Small Animal Hospital

WAYNE L. EMERSON, D.V.M., and O. N. EMERSON, D.V.M.

*Eagle Grove, Iowa*

OUR CLINIC was put into operation in March, 1950, at an approximate cost of \$16,000, including lot, building, and equipment. It has 13 kennels, three kennel runs, and three large animal box stalls. There is a small animal surgery for pigs and sheep, as well as dogs and cats. On the larger animals, surgery is done in the individual box stalls.

The building, heated with natural gas via a hot water furnace and baseboard radiators, has its own water supply system. The floors are insulated concrete which enables easy disinfection; the walls are of 8-in. hollow tile and are not plastered so that they may be hosed down frequently. The whole clinic, with the exception of the large animal area, is scrubbed and disinfected daily. The box stalls are cleaned and disinfected weekly or whenever an animal leaves.

In the two years the clinic has been in use, we have done approximately 120 rumenotomies, 90 bovine ovariectomies, 22

bovine and 44 porcine cesarean sections, and numerous urethrotomies, as well as a number of operations for hernias, cryptorchids, and prolapsed rectums. During the winter, animals suffering from severe pneumonia are brought to the hospital.

The clinic is run with only the help of an office girl, who does the daily cleaning and the secretarial work. The small animal patients are mostly ambulatory unless surgery is required.

Built to serve the needs of clients and patients with a minimum of space and employees, the building has proved to be too small, and plans are now underway to expand the large animal facilities.

There are 11 practicing veterinarians in Wright County, and three veterinarians in Eagle Grove which has a population of about 4,500. Our practice, which involves an area of about 15 sq. mi., is made up mostly of hogs and beef cattle, with an increasing number of sheep.

Drs. Wayne L. Emerson and O. N. Emerson are owners of the Emerson Veterinary Clinic in Eagle Grove, Iowa.



Fig. 1.—The Emerson Veterinary Clinic in Eagle Grove, Iowa.



Fig. 2—The Office of the Emerson Veterinary Clinic.



Fig. 3—The small animal surgery and examining room.



Fig. 4—The box stalls of the Emerson Veterinary Clinic. Note the sliding door at left where large animals are admitted.

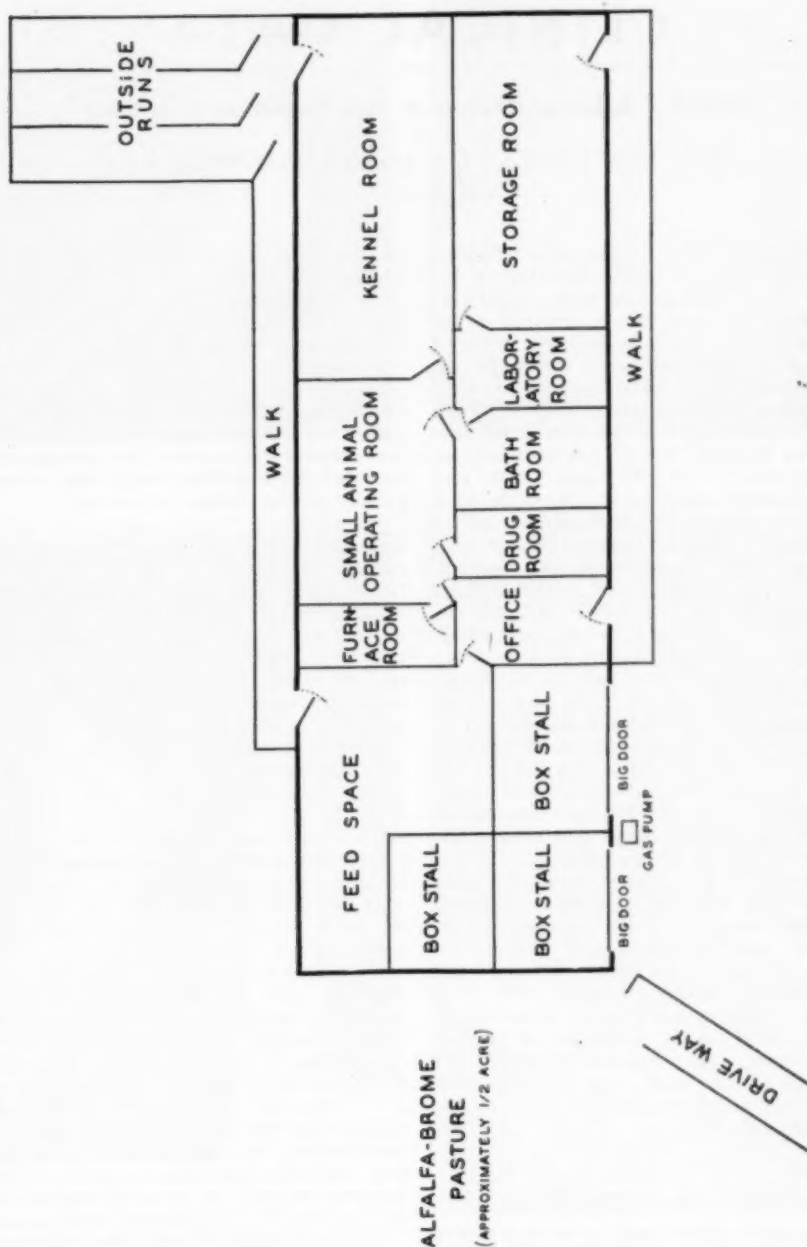


Fig. 5—The floor plans and layout of the Emerson Veterinary Clinic in Eagle Grove, Iowa.

# CLINICAL DATA

## Primary Adamantinoma in the Humerus of a Dog

SVEND WOGÉ NIELSEN, D.V.M., and GERRY B. SCHNELLE, V.M.D.

*Boston, Massachusetts*

THE NATURAL SITE of the adamantinoma, ameloblastoma, or enameloblastoma is the jaw. Aberrant adamantinomas, such as the one described here, which occurred in the humerus of a dog, have not been reported previously in the veterinary literature. In man, several cases have been described occurring primarily in the tibia.<sup>1,2,3,4,12,13</sup> Various theories have been proposed to account for the peculiar site of the aberrant adamantinomas in the long bones. In the case of this particular type of tumor, the most plausible hypothesis is perhaps provided by Cohnheim's classical theory of tumor development from a dystopic cell rest. According to this reasoning, an epithelial basal cell rest, formed in the fetal life, may, by some accidental injury, develop into an adamantinoma. Slow growth, in some cases noted over a number of years, is characteristic of these tumors. They are painless and otherwise asymptomatic as long as they are localized in the bone tissue. When they reach soft tissue such as periosteum and joint cartilage, they begin to cause pain. Metastases occur rarely and then only in heavily keratinized forms and always late in the course of development.

Tumors of the enamel organ occurring in the jaw have been found in different domestic animals. Cases are described by Folger<sup>3</sup> and by Jasper and Kanegis<sup>4</sup> in cattle, by Joest<sup>7</sup> in a calf, by Lineaux<sup>9</sup> and by Olafson<sup>10</sup> in cats, and by Orr<sup>11</sup> in a rabbit. The enameloblasts, constituting the so-called enamel organ, are of ectodermal origin. They develop from the epithelium of the gums, and function, both prenatally and postnatally, in forming the enamel of the teeth.

### HISTORY

The patient was a 10-year-old male Dal-

matian. The first sign of illness, lameness of the right foreleg, was noted four weeks prior to admission at the Angell Memorial Animal Hospital. The owner thought that the condition was of traumatic nature, but when, after a few days, it failed to improve, the dog was taken to a veterinarian. In addition to the obvious lameness, he diagnosed a chronic nephritis, and penicillin and demerol were given. No improvement occurred and a marked weight loss became evident as the disease progressed.

On admission to this hospital, the elbow was swollen and exquisitely tender on palpation or with any movement of the affected limb. The admitting diagnosis was acute arthritis. Laboratory findings were as follows: white blood count 23,400, red cell count 6,250,000, hemoglobin 12 Gm. per 100 cc. blood, sedimentation rate 30/30 min. and 46/60 min. (by Wintrobe tube method). Radiographs showed a lesion affecting approximately the distal eighth of the shaft and the epiphysis of the humerus. There was some sclerosis, with scattered areas of decalcification of about pin-point size. The lesions appeared on both sides of the epiphyseal line. No periosteal involvement could be detected (fig. 1). Treatment with demerol, terramycin, and penicillin was instituted. The temperature varied between 102.0 F. and 102.8 F.

Radiographic examination one week later disclosed that the lesion had advanced markedly, involving approximately one-fifth of the humerus. There was some irregular calcification of the mass, the whole effect being one of increased radiopacity on lateral projection (fig. 2a). The periosteum was elevated for the full length of the bone involvement. On antero-posterior projection (fig. 2b) the lateral condyle of the humerus showed an area of marked decalcification. No joint change could be seen.

An unfavorable termination was predicted and the animal was destroyed by

Dr. Nielsen is resident in pathology and Dr. Schnelle is chief of staff at the Angell Memorial Animal Hospital, Boston, Mass.



Fig. 1—Lateral projection of the right elbow showing only slight pathological changes.



Fig. 3—The distal end of the right humerus presents a marked periosteal bone formation.



Fig. 2a—A week later the lateral projection reveals increased radiopacity and a distinct periosteal involvement of the distal end of humerus.

Fig. 2b—Dorso-volar projection shows, in addition to changes seen in figure 2a, a marked decalcification of the lateral condyle.



Fig. 4—Section from the mesenteric lymph nodes illustrating the tumor islands budding out from the tumor cords.  $\times 120$ .



sodium pentobarbital injection eight days after admission.

#### AUTOPSY

The body was in poor nutritional condition. The skin and the mucous membranes were not remarkable. Around the right elbow joint, a swelling of hard consistency extended proximally 5 cm. and distally 2 cm. The surrounding muscles were not involved. The joint cavity contained an increased amount of yellowish red viscous fluid. Shreds of fibrin were found on the articular surfaces, and the underlying cartilage had yellowish grey areas. It was possible to depress the cartilage over the lateral condyle of the humerus. In the underlying bone tissue were several softened yellowish foci. The periosteum of the humerus' distal extremity was thickened, and bulged outward over several hard, yellowish protuberances (fig. 3). A cross section of the lateral condyle revealed a yellowish, soft center in certain areas extending through the bone's compact layer. Around this was a shell of undestroyed compact bone and newly formed periosteal bone tissue, which was not completely decalcified. The compensatory periosteal bone forma-

tion was more extensive than the area destroyed by the tumor.

Metastases were found in the liver, lung, spleen, diaphragm, transverse abdominal muscles, mesentery, and mesenteric lymph nodes. Their sizes varied from 0.5 to 8.0 cm. in diameter. They were well separated from the surrounding tissue and of firm consistency. The cut surface revealed a white fibrous-like tissue, which was fragile on compression; from several minute caverns oozed a milky fluid. Smears of the fluid showed a suspension of large squamous epithelial cells which were partly cornified.

#### MICROSCOPY

Microscopic examination of both bone tumor and metastases revealed, within a fibrous capsule, tumor cells of epithelial type arranged in columns and isolated islands of a solid or cystic appearance (fig. 4). No vessels were present in these epithelial masses. In the central part of some of them, necrosis and leukocytic infiltration were observed, while in others there was a remarkable central keratinization. In the latter, the central cells were of a flat, stratified squamous type, with nuclei absent or pyknotic (fig. 5). In the major part of the bone tumor, the epithelial masses had a distinct single layer of cylindrical cells arranged in a palisade structure, forming the periphery. The normal marrow spaces were filled with tumor tissue. In several areas, the tumor lay just beneath the joint cartilage. Destruction and resorption of bony tissue had taken place, and there was a periosteal formation of young bone tissue, deposited presumably in compensation for the destruction of the deeper bone.

In concluding, it may be said that the tumor belongs to a class found both in the skin and the mucous membranes. This type, although primarily not keratinizing, changes in the process of evolution into a squamous keratinizing form. Further, it must be emphasized that the less keratinized parts are present in the bone tumor (fig. 6), while the metastases show the most advanced cornification.

#### HISTOLOGICAL DIAGNOSIS

The histological diagnosis in this case was adamantinoma with a high degree of keratinization, originating in the lateral

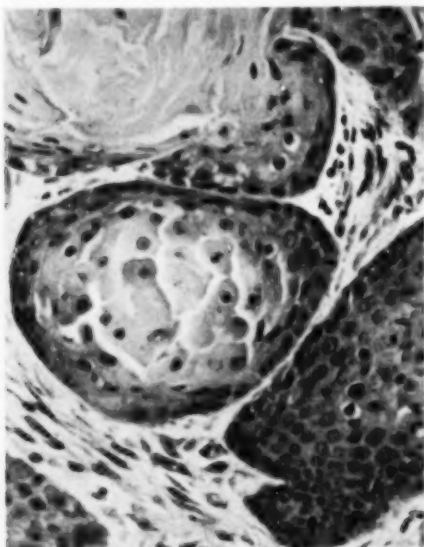


Fig. 5—Splenic neoplasm showing advanced keratinization in two of the epithelial masses. x 400.



condyle of the right humerus, with metastases to the liver, lung, spleen, diaphragm, transverse abdominal muscle, mesentery and mesenteric lymphnodes.

#### DISCUSSION

A careful postmortem examination did not reveal any tumor in the skin or mucous membranes identical with the squamous type of the metastases in the soft tissues. It is theorized, therefore, that the primary tumor occurred in the distal end of the humerus. Evidence of this was demonstrated microscopically after thorough sectioning of the humerus. The bone tumor had mainly unkeratinized epithelial islands and cords of characteristic adamantinoma structure, but it also had epidermoid parts similar to the metastases. The latter type predominates, especially in the periphery of the bone neoplasm. The case shows further a striking clinical similarity to those of aberrant adamantinoma occurring in the tibia of man. As to the time required for development of the tumor, like other adamantinomas, it may have been present for a long time without causing observable pain. What caused the acute rapid growth of the bone tumor in the last week before death, as demonstrated on the x-rays, may have been some recent injury. When the tumor reached and rarified the osseous tissue under the joint cartilage, the dog started limping because of pain. Another source of pain supposedly was the tumor infiltration into the subperiosteal bone tissue and the periosteum itself. The pathological findings in the elbow joint show the presence of a slight aseptic arthritis, probably arising from tumor invasion of the joint cavity and surrounding tissue.

Of the widespread metastases, only one seems to have caused the dog observable trouble, i.e., the abdominal wall tumor situated just anterior to the pubic bone. This tumor, because of its size, had compressed the neck of the bladder, causing a partial obstruction and consequent extreme hypertrophy and dilatation of the bladder wall. The presence of an infection was manifested by an elevated white blood count, increased sedimentation rate, pyrexia, and an apparent response to antibiotic treatment. The only acute inflammatory change, the aseptic arthritis caused by the tumor infiltration into the elbow joint, could not

account for these findings. The autolysis of the tumor epithelium in the widespread metastases seems therefore to be alone re-

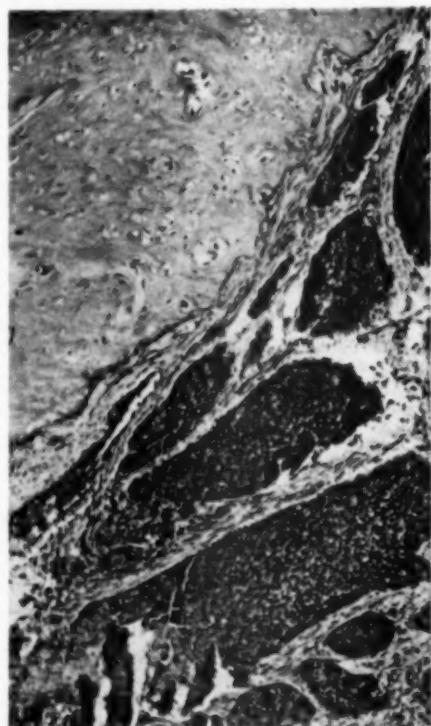


Fig. 6—Bone tumor, with a small area of beginning keratinization evident in the lower left corner.  $\times 120$ .

sponsible for the systemic clinical picture. The tumor's recent rapid growth, the extensive dissemination of the metastases and the high degree of keratinization indicate a type of aberrant adamantinoma different from those described in the tibia of man. According to its definitely malignant nature, the tumor should be classified as an adamantinocarcinoma.

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## Reactions from Lapinized Rinderpest Virus Vaccination

Reactions are reported in susceptible cattle after vaccination with a lapinized rinderpest virus. It is believed to vary with the attenuation of the virus. Some have previously reported the vaccine as still virulent for calves after 100 serial passages. Others have reported a slight reaction after 160 passages.

In Uganda, 18,400 cattle were thus vaccinated in 1950. Eight herds totalling 200 cattle were closely observed for reaction. Reports were received from about 2,700 other vaccinated cattle in 43 herds, 20 per cent of which were calves.

Reactions occurred in 18.6 per cent of the adults and 23.1 per cent of the calves in the eight test herds, and were noticed in 5.9 per cent of the adults and 30.6 per cent of the calves in the 43 herds. Symptoms usually appeared about the ninth day and lasted about five days. They included a rise in temperature, a cough, lacrimation, and diarrhea. Early morning temperatures of 40 cows chosen at random were taken daily for twenty-one days. These temperatures ran a typical reaction curve. Few were above 100 F. before the fourth or after the seventeenth day. The temperatures of 1 to 10 animals were over 102 F. from the fourth to the twelfth day. Temperatures of 2 animals were over 103 F. on

the eighth day, of 3 animals on the ninth day, and of 1 animal on the tenth day. The temperatures of 10 animals were over 102 F. on the ninth day.

Four weeks after vaccination, 6 vaccinated and 2 unvaccinated animals were challenged with virulent virus. One control died with typical symptoms the twentieth day but no others showed symptoms.—*Vet. Rec., March, 1951.*

*Inactivation of Penicillin by Means of Penicillinase.*—Milk from penicillin-treated cows often is unfit for cheese making, since the penicillin has interfered with the starter culture. From 30 to 80 per cent of the penicillin introduced into the mammary glands can often be found in the milk of the first two milkings following treatment. To prevent this loss to cheese makers, several remedies have been suggested: (1) withholding the milk for two days after the use of penicillin insufflations; (2) marking the milk can so that such milk will be used for other purposes; (3) inactivating the penicillin by means of chemicals, but this makes the milk toxic; (4) use of a penicillin-resistant starter, but this has not made a satisfactory cheese; (5) inactivation of the penicillin by means of penicillinase. This method is successful but still expensive. Cheese of a satisfactory quality and flavor can thus be produced.—*Netherlands Milk and Dai. J., 5, 1951.*

## Rabies

From the viewpoint of the public health worker, rabies is a national disgrace. We have known about its spread by biting animals since the time of Galen and Aristotle, 300 B.C., yet it is on the increase.—*Iowa Vet., May-June 1952.*

During the period 1940 to 1950, there was only one human death from rabies in Iowa, whereas there were three deaths from vaccine paralysis.—*Iowa Vet., May-June 1952.*

The *Indian Veterinary Journal* reports temperature records on 43 sheep infected with rabies fixed virus. Thirty-five had a typical rise in temperature two days before the onset of symptoms, and it persisted until paralysis and death.—*Vet. Bull., April, 1952.*

## Terramycin Ophthalmic Preparations in Small Animal Practice

LLOYD C. MOSS, B.S., D.V.M.

Fort Collins, Colorado

TERRAMYCIN® is available in two forms for ophthalmic application. One is a powder in a vial to which is added distilled water; the other is an ointment.

The bottle with the powder form of terramycin contains 25 mg. of terramycin as the crystalline hydrochloride, 62.5 mg. of sodium chloride buffered with 25 mg. of sodium borate. The addition of 5 cc. of distilled water to the vial makes a preparation suitable for ophthalmic use. The package is supplied with a dropper attachment which replaces the screw cap of the vial. This product will probably find limited use in veterinary practice as it should be stored in a refrigerator, following preparation of the solution, where it should retain its potency for seventy-two hours.

The ophthalmic ointment in the ½ oz. tube contains 1 mg. of terramycin to the gram, as the crystalline hydrochloride.

The two products indicated above have been used in a variety of ophthalmic conditions in which local application of an antiseptic was desirable. The cases treated have been the type of eye diseases usually presented to a small animal clinic.

The following list indicates where the antibiotic has been used with good clinical results: conjunctivitis, keratitis, corneal ulceration, corneal ulcers associated with distemper, ulceration of the cornea as a result of trauma, staphyloma of the iris from a penetrating wound of the cornea, preoperative preparation of the cornea for extraction of the crystalline lens in luxation of the lens, and chemosis of the conjunctiva in cats either unilateral or bilateral (possibly a virus infection).

Terramycin, either liquid or ointment,

was applied to the eyes three to six times a day. In some cases of keratitis or ulceration of the cornea, cortone acetate (Merck) was also introduced into the eye at one- to eight-hour intervals.

### CASE HISTORIES

*Case 1.*—A 4-year-old, orange, male cat was admitted to the hospital on Dec. 11, 1950, with bilateral chemosis of the conjunctiva, marked photophobia, slight epiphora, swollen and edematous conjunctiva, and evulsion of the palpebral conjunctiva so that the cornea was slightly visible. The owner had treated the animal for two weeks, during which time the chemosis had progressed. He had applied sulfathiazole ophthalmic ointment and boric acid solution to the eyes, and had administered vitamin A and B complex orally. Blood examination after admission showed the following: erythrocytes, 8,020,000; leukocytes, 5,100; neutrophils (segments), 40; lymphocytes, 51; monocytes, 6; eosinophils, 5. The temperature was normal on admission and remained at, or near, normal until dismissal on Jan. 16, 1951.

Crystalline penicillin solution (200,000 units in 6 cc. of normal saline) was instilled into the eyes four times a day, and 200,000 units of procaine penicillin was administered intramuscularly daily for three days, without improvement.

Bacitracin ophthalmic ointment was then used for three days without response. Then, in turn, we used zinc sulfate ophthalmic ointment; streptomycin (0.25 Gm. twice daily, intramuscularly); chloromycetin orally and as eye drops; vitamin A in 25,000 unit doses; vitamin B complex; and two zymatinic® drops orally, all apparently without benefit. After twenty-five days of various treatments, terramycin ophthalmic in liquid was tried. After four days of applications, three times a day, marked improvement was noted. The animal was dismissed as recovered after eleven days of treatment.

This cat had been removed from the hos-

Dr. Moss is professor and head, Department of Medicine, School of Veterinary Medicine, Colorado A. & M. College, Fort Collins.

The observations and assistance of Dr. R. H. Jourdan, assistant professor of small animal medicine, Dr. George Brown (M.D.), eye, ear, nose, and throat specialist, and the veterinary students, Colorado A. & M. College, veterinary class of 1951, are gratefully acknowledged.

\*Supplied by courtesy of Chas. Pfizer & Co., Inc., New York.

pital for one day for the purpose of breeding. It was interesting to note that the female cat he bred was admitted to the hospital for a unilateral chemosis of the conjunctiva eleven days following exposure to the male cat.

The dog was returned on March 18 with bilateral anterior luxation of the crystalline lens. The owner was advised to return the animal for extraction of the lens, which was performed on the right eye April 8. The eye was prepared for surgery by instil-



Fig. 1.—Case 1 (cat) showing marked chemosis, photophobia, and slight epiphora. The animal would open its eyes for only a few seconds when startled and when eating.

*Case 2.*—The female cat referred to above, which was 18 months old, was admitted to the hospital on Jan. 17, 1951, with the report that one of her eyes was discharging profusely. The conjunctiva was red, exposed, and edematous. She was treated three times a day for four days in the hospital with terramycin in the aqueous form, and then was dismissed as recovered.

The 2 cats discussed above were assumed to have a virus infection of the conjunctiva. A number of other cats were treated during this period with essentially the same conjunctival lesions, some unilateral and others bilateral.

*Case 3.*—A female Sealyham Terrier, 4 years old, was admitted to the hospital Feb. 17, 1951, with the history of a photophobic right eye, with no knowledge of how the injury occurred. The diagnosis had been subluxation of the lens. When examined in consultation four hours later, the eye failed to show the subluxation; the only pathology noted was a slight fraying of the zonula ciliaris,

lation of terramycin ophthalmic liquid three times a day. It was also used postoperatively along with procaine penicillin intramuscularly. Recovery was uneventful with no evidence of infection.

Extraction of the crystalline lens of the left eye was carried out April 22. Terramycin ophthalmic liquid was again used preoperatively and postoperatively, and procaine penicillin was administered postoperatively. The surgery was performed by Dr. George Brown (M.D.). It is interesting to note that Formston<sup>1</sup> has reported his observations on over 100 cases of displacement of the crystalline lens. He found the disease only in the Wire-Haired Fox Terrier and Sealyham Terrier and not in any dog under 3 years of age. He believed the primary etiological factor to be genetic.

#### SUMMARY

Terramycin in liquid and ointment prepa-

<sup>1</sup>Formston, C.: Observations on Subluxation and Luxation of the Crystalline Lens in the Dog. *J. Comp. Path. and Therap.*, 55, (1945):168-184.

rations has been used in a variety of ocular diseases with good clinical results. It is apparently effective where other antibiotics are without benefit. It is also a satisfactory product for use in preoperative and post-operative procedures involving the cornea.

### The Place of Radiography in Teaching Anatomy

D. D. DELAHANTY, D.V.M., M.S.

Fort Collins, Colorado

Veterinary anatomy, an uninteresting subject at best, has neglected to utilize a vital means of structural study of the domestic animals. Radiographic studies often will give the student a sense of normal physiological relationships which is difficult



Fig. 1—Barium-injected arteries of the digit of the horse.

to assimilate on the formalized cadaver or the prepared skeleton. For example, the use of barium-injected specimens of joints, arterial beds, and tendon sheaths further augments direct anatomical study by the student. In the extremities of those domestic animals having multiple ligaments, tendons,

From the Department of Surgery and Clinics, Colorado A. & M. College, Fort Collins.



Fig. 2—Barium-injected arteries of the digits of the ox.



Fig. 3—Barium-injected studies of the phalanges of the dog.



tendon sheaths, bursae, and extensive joint capsules of delicate structure, it can well be appreciated that the dissection of the finer ramifications of these structures are often mutilated by the neophyte. Radi-



Fig. 4—Barium-injected fetlock joint capsule. Note the extensiveness of the posterior cul-de-sac.

ography represents a method of imparting to the student this information, so that he may in his dissection appreciate the finer yet relatively important details of anatomy. This is particularly true in the study of small animal anatomy, for here the course of the arterial circulation is often destroyed by the student's scalpel.

In addition to this basic anatomical knowledge, the student gleanes concepts of another phase of anatomy, i.e., normal radiographic anatomy, which will serve him well in radiographic interpretation in his future clinical work.

Once entered, this type of instruction can be broadened extensively to include such phases of study as the circulation of the brain, lungs, heart, visceral and parenchymatous organs, and the technique for barium-injection studies.

Hypodermic needles of various sizes are blunted for arterial studies, and above the region of interest the needle is placed in the main artery supplying the part. In a fresh cadaver the cannula is ligated *in situ*. The barium sulfate solution is made up to

a heavy cream consistency and is slowly and forcefully injected. During injection, all leakages are controlled with hemostats and subsequently ligated. The part is suspended for forty-eight hours then radiographed.

### Sheep Scabies and Its Treatment

Dr. Kemper of the Bureau of Animal Industry states that fifty years ago scabies was the greatest drawback to the sheep industry on the western range. It was finally controlled by the use of either lime-sulfur or nicotine-sulfate dips. However, these dips did not destroy all the eggs of the mites, and a second dipping was required after an interval of ten to fourteen days. This second dipping is not necessary if a benzene hexachloride dip is used in proper dilution.

Tests made after such dipping, by placing the live mites on the sheep every fourteen days, proved that the sheep were protected against reinfestation with scab mites for three to five months. This means that the sheep can be returned to their infected pens immediately after dipping without danger of reinfestation. For good results, every sheep in the flock should be dipped for at least one minute and their heads ducked at least twice.

The benzene hexachloride should never be mixed with other dips, such as lime-sulfur. Rough handling of the sheep should be avoided to prevent wounds since the benzene hexachloride solution neither kills bacteria nor inhibits their growth. The same is true with the old lime-sulfur and the nicotine-sulfate dips. Therefore, wound infections may result. Despite its good record, the benzene hexachloride dip is not yet recognized by the Bureau of Animal Industry. This is solely because the Bureau requires practical field tests to determine from time to time the concentration of the material in the vat. Such a test is not yet possible but a search for same is now in progress.—*Nat. Wool Grower*, Jan., 1952.

Thirty cases of infection with *Erysipelothrix rhusiopathiae* in man were successfully treated with the use of penicillin.—*Vet. Bull.*, March, 1952.

## Hyperphalangism of an Extremely Well-Developed First Digit Accompanied by an Extra Dewclaw in the Hindpaws of a Dog

A. VITUMS, DR. MED. VET.  
Pullman, Washington

A rudimentary first digit, the so-called dewclaw of the hindpaw, is observed frequently in dogs and is commonly regarded as an atavistic feature. It is often accompanied by an extra dewclaw which is a deformity in its nature.

The appearance of the dewclaws in different breeds and in varying completeness is reported especially by Seiferle (*Morph. J.*, 57, 1927; *Schweiz. Arch. f. Tierheilk.*, 70, 1928) in his comprehensive studies.

Two phalanges is the typical number for the pollex and the hallux in most mammals. Hyperphalangism of the first digit in the hindpaw of the dog has not been proved. Hauck (*Tierärztl. Zentralbl.*, 42, 1919) suggested two types of dewclaws in dogs, one with two phalanges and one with three phalanges. But, inasmuch as Hauck could not adequately demonstrate them, it is doubtful whether three phalanges were actually present in all reported cases. Seiferle denies the existence of three phalanges in the atavistic first digit of the hindpaw in the dog and points out that the proximal phalanx reported by Hauck should be considered as the distal separated part of the first metatarsal bone.

The animal reported in this paper was a bitch of mixed breeding (possibly Spaniel and Shepherd) between 2 and 3 years old. The animal had three phalanges on the first digit and an extra dewclaw on both hindpaws.

The extra dewclaw on the right as well as on the left paw was connected to the medial side of the paw only by fascia and skin. The skeleton of the extra dewclaw was represented only by a small distal phalanx.

The first digit had a well-developed digital pad and metatarsal pad. The latter appeared almost completely separated from the common metatarsal pad. The horn as well as the digital and metatarsal pads of the first digit were worn, indicating the complete function of this digit.

The skeleton of the hindpaws (fig. 1) exhibited the following characteristics: The central tarsal bone (Tc) had a distinct process on its medial side. This process was larger on the right paw, and was separated incompletely by a small fissure from the main part of the Tc. This bony prominence of the Tc might be regarded as a remnant of an originally independent, separate bone of the Tc in vertebrates.

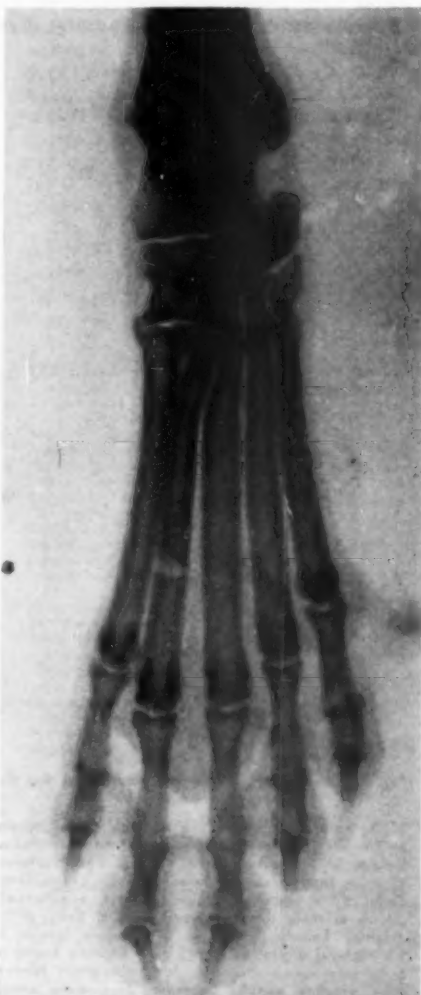


Fig. 1—Roentgenogram of the right hindpaw of the dog (dorsal view).  $\times 1$ .

From the Department of Veterinary Anatomy, College of Veterinary Medicine, State College of Washington, Pullman.



The first metatarsal bone was extremely well developed and extended from the tarsus almost to the level of the distal epiphysis of the second metatarsal bone.

Three digital segments were formed in the first digit, the proximal phalanx (Ph. 1), the middle phalanx (Ph. 2) and the distal phalanx (Ph. 3). Two plantar and one dorsal sesamoid bones were present at the metatarso-phalangeal joint of the first digit. This confirms the suggestion of Hauck and proves the possibility of the three phalanges of the atavistic first digit

of the hindpaw in the dog questioned by Seiferle.

The muscles of the hindpaws (fig. 2 and 3) revealed the following variations from the usual picture: The anterior tibial muscle had two tendons, a larger dorsal tendon and a smaller plantar tendon. The dorsal tendon terminated on the Ph. 3 of the first digit and represents the extensor of the first digit. The plantar tendon terminated on the Ph. 1 of the first digit, and partly in the fascia of the extra dew-claw and might act as the abductor of the first digit.

Four bellies of the extensor digitalis

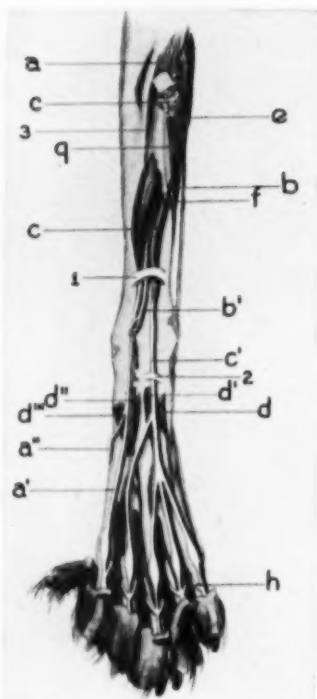


Fig. 2—Dorsal view of the left hindpaw of the dog. x 0.4.

a = anterior tibial m.; a' = its dorsal tendon; a'' = its plantar tendon; b = extensor hallucis longus; b' = its tendon; c = long digital extensor; c' = its tendon; d = extensor digitalis brevis, lateral belly; d' = extensor digitalis brevis, middle belly; d'' = extensor digitalis brevis, medial belly; d''' = extensor hallucis brevis; e = fibularis longus m.; f = lateral digital extensor; g = fibularis brevis m.; h = interosseous branches to the extensor tendons; i = proximal annular ligament; 2 = distal annular ligament; 3 = tibiotarsal ligament.

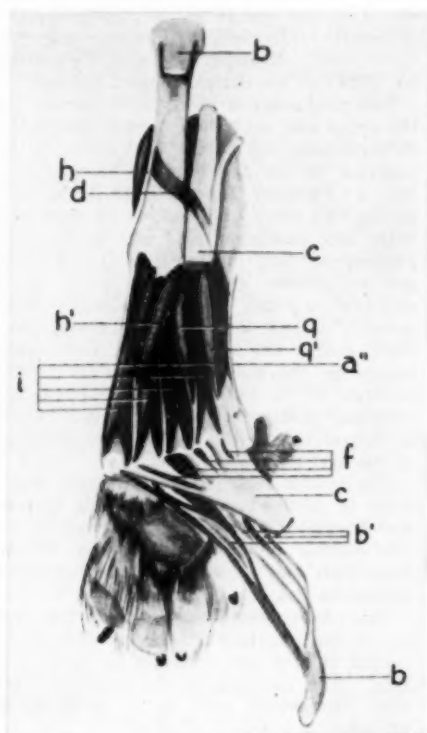


Fig. 3—Plantar view of the left hindpaw of the dog. x 0.6. The tendons of the superficial and deep digital flexors are transected and reflected.

a' = plantar tendon of the anterior tibial muscle; b = tendon of the superficial digital flexor; b' = flexores digitales breves; c = tendon of the deep digital flexor; d = quadratus plantae; f = lumbricals; q = adductor digiti II; q' = adductor digiti II; h = abductor digiti V; h' = adductor digiti V; i = interossei.

brevis were observed. The most medial belly probably corresponds to the extensor hallucis brevis.

The extensor hallucis longus terminated by two tendons. One of these tendons joined the tendon of the extensor digitalis brevis of the second digit; the other one disappeared in the tarsal fascia.

The tendons of the superficial and the deep digital flexors were each divided into five branches for the first to the fifth digits. The rudimentary flexores digitales breves were observed between the branches of the superficial digital flexor.

Three interflexorius muscles were present. Four lumbrical and five interosseous muscles were developed.

In addition to the muscle adductor digiti secundi, a small muscle was observed which might be considered the abductor digiti secundi.

### Vesicular Exanthema Diagnosed

The Bureau of Animal Industry on July 15, 1952, called a meeting of Livestock Sanitary officials from several involved states to discuss vesicular exanthema, which resembles foot-and-mouth disease but affects only swine. Outbreaks are usually started when hogs are fed uncooked virus-containing garbage. It has frequently occurred in California but since early June has spread, mostly by shipments of exposed hogs, through several western states and to the Omaha and St. Joseph markets. One shipment was traced to New Jersey but immediately quarantined there.

Animal inoculation and serology tests have differentiated it from foot-and-mouth disease. When identified at terminal markets, all unexposed hogs were slaughtered immediately, the yards thoroughly disinfected, then re-opened, but only for hogs for immediate slaughter. Many premises in several western states were affected.

*Effect of Antibiotics on the Fatness of Hogs.*—Two tests have indicated that in 224-lb. hogs the fat thickness of the back is increased from 1.72 in. to 2.03 in. by antibiotic feeding. This suggests that part of the extra weight secured by antibiotic feeding may be due to greater depositions of fat.—W. M. Beeson, Ph.D., Lafayette, Ind.

### Antibiotic Agents for Veterinary Use

CARLE E. BUNN, D.V.M., and S. F. SCHEIDY, V.M.D.

West Point, Pennsylvania

The subject of antibiotic agents and their use in chemotherapy has been so well summarized by various authors in the veterinary literature that it is felt that little of practical value could be added by the gathering together of the latest information for publication of a review article. However, a review of the currently available literature does indicate that eight antibiotic agents, aureomycin, bacitracin, chloromycetin, neomycin, penicillin, streptomycin, terramycin, and tyrothricin have been demonstrated to have effective therapeutic value in the treatment of some frequently encountered animal diseases or infections.

The following table listing these antibiotic agents and the disease condition in which the agents have been used successfully is prepared for the convenience of the reader.

TABLE I—Eight Antibiotic Agents and Their Therapeutic Value in Animal Diseases and Infections

	A	B	C	N	P	S	T	Ty
Anthrax					+			
Actinomycosis						+		
Blackleg								
Bovine mastitis	+	+		+	+	+	+	+
Calf diphtheria	+				+			
Calf pneumonia	+		+		+	+	+	
Calf scours	+					+	+	
Canine distemper <sup>1</sup>					+	+	+	
Conjunctivitis and keratitis	+	+	+	+	+		+	
Cystitis and nephritis (dogs)	+		+		+	+	+	
Endometritis (metritis)	+				+	+		+
Enteritis and diarrhea	+	+	+	+	+			
Feline enteritis (distemper) <sup>1</sup>	+		+		+	+	+	
Furunculosis	+	+	+	+	+		+	+
Leptospirosis	+				+	+	+	
Osteomyelitis	+	+	+		+		+	+
Otitis externa	+	+	+	+	+	+	+	
Pyelonephritis					+			
Shipping fever <sup>2</sup>	+	+			+	+	+	
Sinusitis (turkeys)	+	+			+			
Skin infections, infected wounds	+	+	+	+	+	+	+	+
Strangles (horses)	+	+			+		+	
Superficial abscesses	+	+	+		+		+	+
Swine dysentery	+	+				+		
Swine erysipelas						+	+	

<sup>1</sup>Secondary bacterial invaders. <sup>2</sup>Hemorrhagic septicemia.

A = aureomycin; B = bacitracin; C = chloramphenicol; chloromycetin®; N = neomycin; P = penicillin; S = streptomycin; T = terramycin; Ty = tyrothricin.

From the Medical Division, Sharp & Dohme, Inc., Philadelphia, Pa.

# SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

## Surgical Intervention for an Unusual Intestinal Intussusception

JEROME H. RIPPES, D.V.M., and  
LESTER A. BARNETT, M.D.

*Asbury Park, New Jersey*

On Jan. 13, 1952, a 9-month-old Weimaraner dog was presented with a history of emesis and blood-stained stools for four days. He was thin and had a temperature of 102.8 F. A large, sensitive, hard mass could be palpated in the upper right quadrant of the abdomen. The thicker portion tapered off sharply into a "tucked-in" pocket. This, together with the history, suggested a diagnosis of intestinal intussusception.

At first a barium enema, such as has been successfully used in similar cases on infants and children, was considered. However, the owner was more receptive to surgical therapy. One gram of streptomycin and 600,000 units of penicillin were given, followed two hours later by pentothal which produced perfect anesthesia for two hours. During the operation, 500 cc. of 5 per cent saline and glucose solution, plus 2 cc. of koagamin® were given intravenously. A 4-in. incision was made from the ziphoid cartilage back, and the mass brought out on the right side. It was an intussusception at the ileocecal-ileocolic junction, 6 in. in length and markedly edematous. Gentle and constant traction was applied until the involved ileum was withdrawn from the colon. It then became evident that the cecum also was inverted into the colon. Actually, there had been two separate inversions into the colon which compressed each other and explained the size and amount of edema encountered. When the cecum was turned right side out, the apex was found to be gangrenous and severely lacerated; it was resected. The serosa of the remainder of the involved intestine, while somewhat hemorrhagic, seemed viable enough to risk

without a resection. The omentum was tucked around the weakest part of the tract and all omental tears were sutured to prevent strangulation at a later time.

Forty-eight hours later, the patient was taking beef broth and ice cubes and had a normal temperature. On the fourth day, his temperature was 103 F. and on the fifth day, 104 F. He, therefore, was given 500 cc. of saline and glucose solution subcutaneously and intravenously and a marked improvement was soon noted. Until the eleventh day, the patient was given either gelatin or saline and glucose solution daily to combat dehydration. He was also given 1 Gm. of streptomycin daily until the seventh day and 1 Gm. of sulfathaladine four times daily, plus 300,000 units of penicillin daily for eleven days. One cubic centimeter of a vitamin B complex and 500 mg. of ascorbic acid were given on alternate days.

The dog ate very well after the fifth day but never had a normal stool. The feces varied from a greenish black to a yellow color and were soft. When the animal was discharged on the twelfth day, the owner was given a prescription for terramycin and a special diet to last one week. At the end of that time, the patient was holding his weight remarkably well but the stools were still loose. A prescription was then given for panteric tablets to be administered with, or one-half hour after, each of the three daily meals. Either by coincidence or because there may have been some secondary pancreatic damage, by the third day after starting the pancreatic substance, the stools were normal in shape and color and were passed only once daily. When last seen on March 18, the patient appeared to be absolutely healthy.

In conditions where a long lasting epidural anesthesia is desired, 5- to 10-cc. injections of 80 per cent to 95 per cent ethyl alcohol has been used. The anesthetic effect may last for several weeks. An overdose or faulty injection could cause serious complications.—V. D. Stauffer, D.V.M., Colorado.

Dr. Rippes is a practitioner, and Dr. Barnett is a surgeon (M.D.), in Asbury Park, N. J.

## An Instrument for Collecting Samples from the Reproductive Tract of Cows for Bacteriological Study

A. H. FRANK, D.V.M., and J. H. BRYNER, A.B.  
*Beltsville, Maryland*

Infection of the reproductive tract is a major cause of impaired fertility in cattle. It is known that a wide variety of organisms commonly inhabit the vagina. Literature on the flora of the uterus shows a divided opinion. Some workers report finding bacteria commonly present. Others report a sterile condition. Much of their bacteriological work has been done on organs selected at random from an abattoir.

From the Pathological Division, Animal Disease Station, Beltsville Research Center, Beltsville, Md.

In such selections, previous breeding history is not available.

Work on the flora of the reproductive tract in impaired fertility cases has been limited because comparatively few cows are slaughtered at the time they are actively infertile. Dairy cows culled because of sterility are kept as long as they pay their feed bill, which is generally several months after breeding operations have ceased; and beef cows are generally kept for a fattening period during which they are not bred. Given such a rest period, the cow is believed to gain resistance against the infections which may have caused temporary sterility. That this is true is indicated by breeding records. These records show that most impaired fertility cases when bred persistently do become pregnant. Practitioners with experience in treating shy breeders recognize the value of rest from breeding

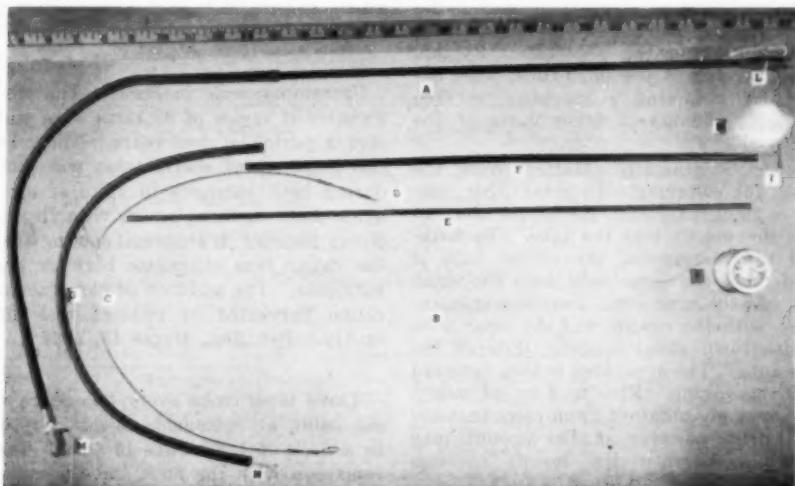


Fig. 1.—Apparatus for obtaining material from the reproductive tract of cows for bacteriological study. (A) Assembled apparatus ready for autoclaving. (B) Unassembled apparatus with parts in approximate position when assembled. (C) Wire plunger (steel wire 0.039 in. diameter by 23 in. long).

(D) Cotton swab on end of plunger (inserted to middle of small tube for assembling). (E) Small tube (approximately 0.179 in. O.D.\* by approximately  $\frac{1}{8}$  in. I.D.\* by 22 in. long). (F) Large tube ( $\frac{1}{4}$  in. O.D. by 0.035 in. wall by 18. long).

(G) Rubber tubing ( $\frac{3}{16}$  in. I.D. by 20 in. long). (H) Mouth piece. (I) Rubber diaphragm (about  $\frac{3}{4}$  in. square cut from surgeon glove, stretched over end of large tube and secured by tying with stout thread, groove is cut around end of tube for securing thread).

(J) Thread. (K) Cotton (wrapped around rubber diaphragm for protection). (L) Paper tied over end of apparatus to keep it sterile. (M) Paper over mouth piece.

\*O.D. = outside diameter; I.D. = inside diameter.

and prescribe it to accompany treatment. In many herds, affected individuals require an average of seven months to become pregnant. Such time lost is costly to the owner.

For prevention and treatment of impaired fertility caused by infection, a method was needed to determine the location and kind of organisms present at any time. An instrument (fig. 1) has been designed to obtain samples for bacteriological study of the reproductive tract in the intact animal. It can be used for obtaining samples from any desired part of the vagina or uterus of cows with a minimum chance of contamination from other parts of the tract.

To obtain a specimen, one hand is inserted into the rectum for location of the area to be sampled. The vulva is cleaned, usually wiped clean with a paper towel, and the end of the assembled apparatus is inserted to within about 2 in. of the desired area. An assistant then pushes the small tube forward about 2 in. within the rubber tubing, and thereby breaks the rubber diaphragm on the large tube. By this means, the end of the small tube, when exposed for obtaining a specimen, is free from contaminants of other parts of the tract.

Mucus is generally obtained from the vagina for culturing. To obtain this, suction is applied through the mouth piece to draw the mucus into the tube. To withdraw the instrument, the rubber tube is rolled from the large tube onto the small tube. At the same time, a vacuum is maintained with the mouth, and the small tube is withdrawn about halfway through the large tube. The apparatus is then removed from the vagina. Five to 6 cc. of mucus are commonly obtained from cows that are near estrus; however, smaller amounts may be obtained when the mucus becomes thicker.

The uterus is sampled by passing the instrument through the cervix. Fluid or mucus is sometimes present and may be obtained in the same way as mucus from the vagina. When there is no fluid, the cotton swab is used. For this, the instrument is first inserted to the desired area. Then the rubber tube is removed and the small tube is pushed forward breaking the rubber diaphragm as has been described. The wire plunger is pushed forward until the cotton swab is exposed. The uterine

walls may be massaged against the swab with the hand in the rectum. To remove, the swab is withdrawn into the small tube and, in turn, the small tube is withdrawn into the large tube as previously described. However, if an intra-uterine injection is to be made, the small tube may be withdrawn leaving the large tube in place to serve as a catheter.

When the instrument is withdrawn, precautions are taken to prevent exposure or contamination of the specimen. The contents of the small tube are used for culturing. In preparation, the rubber tube is removed and the large tube is sterilized by flame at the point where it was attached. The small tube is then withdrawn from the large tube. The end of the small tube is sterilized by flaming lightly and the mucus is forced out with the cotton swab. When the swab is used for culturing, the contents are washed off in nutrient broth which, in turn, is used for inoculation purposes.

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*Spermatogenesis in Rams.*—The characteristics of semen of 33 rams were studied over a period of two years. The number and longevity of spermatozoa was reduced during both summers in spite of an adequate diet. Induced severe vitamin A deficiency resulted in abnormal sperm, whether the ration was otherwise high or low in nutrients. The addition of carotene to the ration prevented or reduced this abnormality.—*Vet. Rec., March 15, 1952.*

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Three lamb crops every two years without using an estrogenic agent is reported in a flock of 1,000 ewes in Ohio. Twenty rams run with the flock and the ewes are rebred while nursing their lambs. No special attention is given them. The lambs are weaned when 4 months old.—*Successful Farming, Feb., 1952.*

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A Toggenburg doe bred to a Saanen sire gave birth on February 15 to 2 typical Saanen kids—a buck and a doe; on February 26 to 2 typical Toggenburg kids—a buck and a doe; 4 kids in eleven days.—*Dairy Goat J., April, 1952.*

# The Use of Cyclaine® as a Local Anesthetic

J. F. BULLARD, D.V.M., M.S.

Lafayette, Indiana

There are numerous surgical operations in veterinary practice that may be performed as well or better under local anesthesia, including some that formerly were done under general anesthesia. While general anesthesia is necessary in many cases, there are various advantages to local anes-

thesia, especially in general practice, that make it the anesthesia of choice many times when either local or general anesthesia might be used.

Procaine and other drugs have been used, and are still being used, satisfactorily as local anesthetics. More recently, others have been developed. It is the object of this report to give some results with one of these, i.e., cyclaine.®

Roberts<sup>1</sup> has reported on cyclaine as compared with other anesthetics when administered epidurally. More recently, Wheat<sup>2</sup> has reported his results with cyclaine where he not only used it epidurally but also as a paravertebral, local, and topical anesthetic in a limited number of cases.

This report includes 33 surgical cases

From Purdue University Agricultural Experiment Station, Lafayette, Ind.

Cyclaine (hexylcaine hydrochloride) was furnished by Sharp & Dohme, Inc., Philadelphia, for investigational use.

TABLE 1—Report of 33 Surgical Cases in Which Cyclaine Anesthesia Was Used

Case No.	No. operated	Animal operated	Diagnosis	Route of injection	Per cent solution	Amount injected (cc.)	Results
1	1	Sow	Cesarean section	Infiltration	1.25	75	Complete anesthesia
2	1	Ewe	Cesarean section	Infiltration	1.0	50	Complete anesthesia
3	1	Cow	Teat stenosis	Infiltration	1.25	3	Complete anesthesia
4	1	Cow	Vaginal tumor	Epidural	2.0	5	Complete anesthesia
5-7	3	Pigs <sup>2</sup>	Scirrhus cord	Infiltration	2.0	10	Complete anesthesia
8	1	Lamb	Scirrhus cord	Infiltration	0.5	10	Complete anesthesia
9-13	5	Pigs	Umbilical hernia	Infiltration	2.0	15	Complete anesthesia
14	1	Pig	Umbilical hernia	Infiltration	2.0	20	Complete anesthesia
15-17	3	Pigs	Bile duct ligation	Infiltration	1.0	60	Complete anesthesia
18	1	Pig	Bile duct ligation	Infiltration	0.5	50	Complete anesthesia
19	1	Pig	Bile duct ligation	Infiltration	0.5	40	Complete anesthesia
20	1	Pig	Bile duct ligation	Infiltration	1.0	40	Complete anesthesia
21	1	Steer	Dehorning	Nerve block	5.0	5 <sup>1</sup>	Complete anesthesia
22	1	Steer	Dehorning	Nerve block	0.5	10 <sup>1</sup>	Slight anesthesia
23-27	5	Steers	Dehorning	Nerve block	2.0	5 <sup>1</sup>	Complete anesthesia
28	1	Heifer	Spay	Infiltration	1.0	70	Complete anesthesia
29	1	Heifer	Udder amputation, unilateral	Epidural	2.0	30	Complete anesthesia
30	1	Mare	Perineal lacerations 3rd degree	Infiltration	1.0	20	Complete anesthesia
31	1	Heifer	Rudimentary teat amputation	Infiltration	0.5	5	Complete anesthesia
32	1	Pig (gilt)	Inguinal hernia bilateral	Infiltration	0.5	10 <sup>1</sup>	Complete anesthesia
33	1	Cow	Eye enucleation	Infiltration	1.0	100	Complete anesthesia

<sup>1</sup>Amount of anesthetic injected into each side. <sup>2</sup>All pigs averaged from 30 to 60 pounds.



which were performed under local anesthesia with only, in most cases, cyclaine as the anesthetic.

In these operations, the local anesthesia produced by cyclaine compared favorably with that produced by any of the numerous other products which have been used by the author. Cyclaine has the added advantage of quicker action with solutions of low concentration. One can operate immediately after the injections have been made. In no case were any toxic effects noticed.

Table 1 includes pertinent data on these 33 cases.

#### DISCUSSION

Some explanation is necessary beyond the data included in the table to more fully understand the circumstances of some of these cases.

In the case of extirpation of the vaginal tumor (case 4) in the cow, the small amount of anesthetic injected epidurally was used more for restraint than for any other purpose.

Several experimental bile duct ligations in swine (cases 15 through 26) were performed, and while these would not be done in general practice, they do correspond to any laparotomy that might be done in swine, such as open reduction of an umbilical hernia.

In the 7 dehorning cases (case 21 through 27), the cornual nerve was blocked in each case. The 2 per cent and 5 per cent solutions used gave satisfactory results. The  $\frac{1}{2}$  of 1 per cent solution produced some anesthesia. In most cases, the higher percentage solutions would seem to be more satisfactory.

The Aberdeen Angus heifer (case 28) was spayed in a box stall while haltered. No other form of restraint was necessary.

The left flank approach was used and the tissues were infiltrated in the usual manner.

In the unilateral udder amputation (case 29) the heifer, while conscious and recumbent, exhibited considerable struggling throughout the operation; however, anesthesia was complete as evidenced by the fact that at the instance of all incisions and dissections, there was no evidence of reflex from pain.

The Standardbred mare (case 30) with third-degree perineal lacerations was nervous and for that reason she was given, in-

travenously,  $\frac{1}{2}$  oz. of chloral hydrate dissolved in 250 cc. of sterile distilled water as a preoperative sedative. She was operated on in the stocks. The cyclaine was used for supplemental anesthesia. It was injected into the subcutaneous tissues near the end of the operation just prior to the insertion of the skin sutures. This part of the operation was performed approximately one hour after the chloral hydrate was administered.

The rudimentary teat amputation (case 31) was anesthetized because this teat was in juxtaposition with the right rear teat and the two were closely joined at the base. Since this particular case required careful dissection, it was deemed advisable to use an anesthetic.

All other cases in the table that are not included in this discussion were routine and uneventful.

#### SUMMARY

For local anesthesia, cyclaine® compares favorably with any other local anesthetic and has the added advantage of immediate action even when used in solutions of low concentration. As soon as injections are made, one can start operating. No toxic effects were noticed in any of the cases where cyclaine was used.

#### References

- <sup>1</sup>Roberts, S. J.: A Comparison of Anesthetics Used in the Bovine Animal. *J.A.V.M.A.*, 116, (1950): 282-285.
- <sup>2</sup>Wheat, J. D.: The Clinical Use of Cyclaine® (Hexylcaine Hydrochloride) as a Local Anesthetic. *J.A.V.M.A.*, 120, (1952): 71-72.

#### Abomasum Displacement in Cattle

Three cases are reported in which the abomasum is displaced to the left of the lower part of the rumen, and refers to a fourth similar case from the literature. One case was found during rumenotomy on a Jersey cow and was corrected by manual manipulation. Another was a 3-month-old Jersey calf, which had been bothered with chronic abdominal tympany. The third, also a Jersey cow, showed inappetence and slight abdominal pain about two weeks after calving. Rumen movements were normal, and no abnormalities could be detected by rectal palpation. She was first treated for indigestion and seemed to improve for a few days. Later, laparotomy through the left flank revealed a relatively



empty rumen with a piece of gut about 8 in. in diameter to the left of the anterior blind sac of the rumen. It proved to be the abomasum and was replaced with difficulty. The cow made an uneventful recovery.

The fourth case had been corrected by starving the animal for forty-eight hours, according to the literature.

Why such conditions occur is not clear. Recovery may occur spontaneously but if not, laparotomy with manual correction is indicated.—*Cornell Vet., Jan., 1952.*

### An Unusual Case of Monorchidism in a Stallion

NORMAN L. GARLICK, D.V.M.

Tacoma, Washington

A 6-year-old Pinto stallion, weighing about 1,100 lb., was a fine horse but was unmanageable in group riding. He was known to have only one descended testis but had sired several colts. The owner had deferred castration because of the danger of loss of the animal.

The physical examination showed the horse to be gentle and well broken. He had several malformations, including underdevelopment of the alar cartilages and the third set of permanent incisor teeth. The right testis was comparatively large as was the right spermatic cord. The left testis had not descended and could not be palpated.

The animal was prepared for surgery by fasting for thirty-six hours; water was withheld during the last twelve hours. Relaxation was obtained with approximately 190 cc. of "relaxans." The animal was fixed in dorsal recumbency with hocks flexed by the aid of a casting harness.

**Operative Procedure.**—A large incision was made over the left external inguinal ring. The gubernaculum testis was isolated by blunt dissection and a hemostat applied. Its connection with the scrotum was then severed. When gentle traction did not bring out the retained testis, the inguinal canal was enlarged to permit the passage of the surgeon's hand.

Using the gubernaculum testis as a guide, the hand was gradually slipped up toward the bladder. As there was consider-

able tension on the gubernaculum in this position, there was little difficulty in following it. About 5 in. inside the internal inguinal ring a thickening was felt in the gubernaculum. The cord at that point was about  $\frac{3}{4}$  in. in diameter for the next 5 in., then again became a narrow structure. A fold of peritoneum was attached to the organ and reflected around it. When further palpation revealed no structure that resembled the usual retained testis, it was decided that an anomaly must be present.

A chain ecraseur was slipped over the gubernaculum testis and carefully passed upward to a point above the thickened portion of the structure. The chain was carefully guarded with one hand while the ecraseur was tightened. The point of severance was about 10 in. inside the abdominal wall. The inguinal canal was then closed tightly.

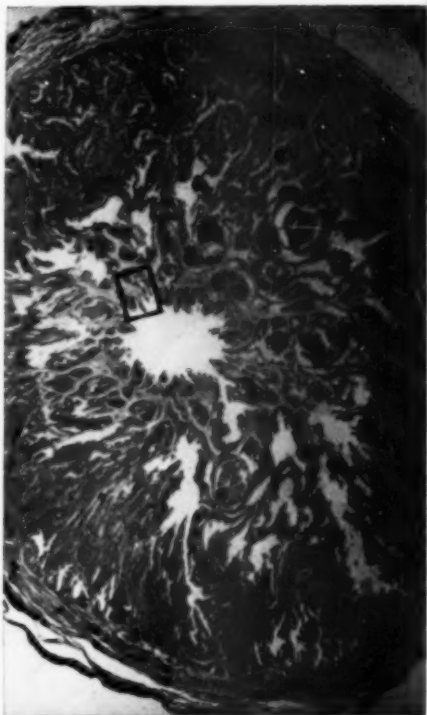


Fig. 1—Cross section of gonad removed from abdominal cavity.  $\times 10$ . The darker staining areas of the matrix are fixation artefacts. The area shown in figure 2 is enclosed in the square.

Captain Garlick is now stationed at Camp Gordon, Ga.

Following the removal of the structure within the abdomen, the right testis was removed in the usual manner, using an emasculator. Due to the very large size of the cord, the severance was made with difficulty.

The recovery was uneventful, and the animal became a gentle gelding.

It is evident that had not the inguinal operative site, with isolation of the gubernaculum testis, been used, this operation in a great percentage of cases would have been a failure. The advantages of the inguinal incision can not be overemphasized in cryptorchidectomy.

*Gross Description of the Tissues Removed.*—The right testis appeared to be enlarged but in other respects resembled a normal organ. There seemed to be an increase in the relative bulk of the seminiferous portion of the organ when compared with the size of the epididymis.



Fig. 2.—Cross section of the central tube.  $\times 200$ . The region shown is indicated on figure 1 within the square.

The structure which had been removed from the left side appeared to be a simple enlargement, enclosed with peritoneum, continuous on one end with the gubernaculum testis, and on the other end with the vas deferens. A transverse section revealed the central portion to be a tube with a great many smaller tubules radiating outward toward the periphery. The tubules joined the central tube at a 90-degree angle, seeming to be straight throughout their length. A cross section above the structure revealed what appeared to be a normal vas deferens with patent lumen.

*Microscopic Appearance of the Descended Testis.*—The seminiferous tubules showed an active state of spermatogenesis. There were many interstitial cells present. In other respects, the organ did not differ remarkably from the normal. Smears of spermatazoa from the ductus epididymis disclosed their size and structure to be normal. No malformed cells were found.

*Microscopic Appearance of the Cryptorchid Gonad.*—The large central lumen was lined with a ciliated epithelium which seemed to vary from simple columnar to pseudostratified columnar. It was folded throughout, and was joined continually by many lateral tubules which had a similar appearing epithelium. A large amount of comparatively loose connective tissue underlay the epi-

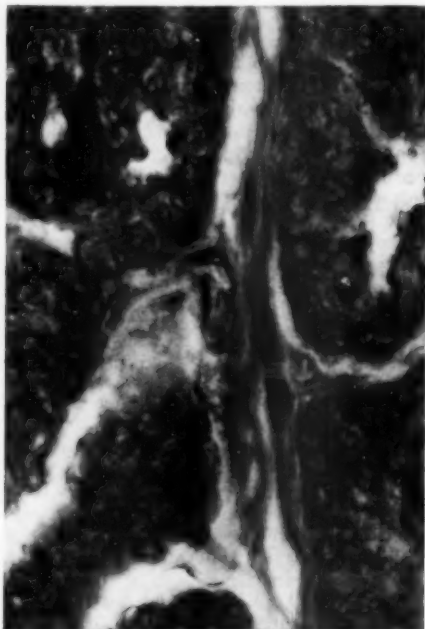


Fig. 3.—The epithelial cells of the tubules near the periphery of the gonad removed from the abdominal cavity.  $\times 750$ .

thelium. A basement membrane could be seen.

Toward the periphery of the organ, the tubules became smaller and more closely packed, but retained the same type of epithelial cell. Trabeculae divided the tubular portion of the organ

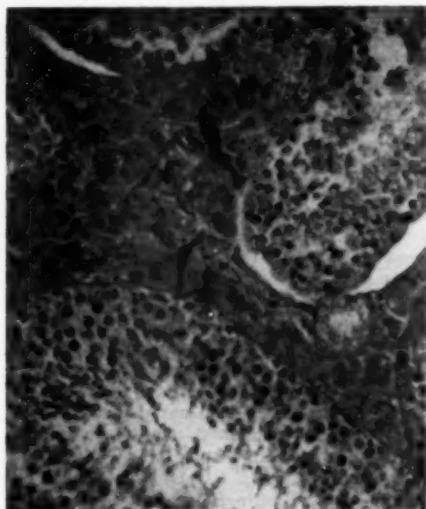


Fig. 4—Seminiferous tubules and related structures from the descended gonad.  $\times 200$ .

into lobules. The trabeculae were continuous with the outer capsule of the organ and contained connective tissue, smooth muscle, and many vessels. Many of the tubules contained an eosinophilic homogeneous material which was apparently a secretory product of the epithelium. Around the tubular portion of the organ was a wide band of smooth muscle which lay in a connective tissue framework. The direction of the muscle fibers seemed to be circular. Large vessels coursed in the connective tissue outside the muscle layer. The outer tissue layer of the organ was of peritoneum. The epithelial cells of the tubules had large, pale-staining, granular nuclei. The cytoplasm was comparatively basophilic. The cilia were numerous and closely arranged.

**Discussion.**—Since the appearance of the epithelium of the retained gonad is not compatible with that of the seminiferous tubules usually found in cryptorchid testes and no interstitial cells, as such, can be recognized, it is probable that no germinal epithelium developed in this organ at all. The appearance of the central tube is compatible with that of a modified vas deferens. The tubules radiating from the central tube do not resemble epididymal tissue but,

rather, may be analogous to embryonic mesonephric tubules. That the structure had an influence on the hormonal balance seems to be indicated by the hypertrophy of the descended testis and the structures of the right spermatic cord.

**Polyorchidism.**—On Aug. 21, 1951, a yearling colt was castrated in the usual manner. On Jan. 1, 1952, the owner reported the colt was showing normal male characteristics and seemed to have a testicle on the right side of the scrotum. On January 7, an adherent testicle-like mass was removed. When examined at a laboratory, the report was that "macroscopic and histological examinations of frozen sections confirm that this is a normal functioning testicle."—*Vet. Rec. March 15, 1952.*

### Breeding Disturbances in Sheep on Clover-Dominant Pastures

In the late 1930's, a movement to increase the fertility of Australian soils by growing subterranean clover was in vogue. It grew luxuriantly so was stocked with sheep. The first season many lambs were born either dead or too weak to survive. The condition was diagnosed as ataxia. Prolapse of the uterus also occurred in about 8 per cent of the ewes. The following year, the same troubles recurred and also many dystocias. Many of these ewes developed septicemia and died. Many ewes and their lambs were saved by manual extraction of the lamb, if found in time. The third year, many of the ewes proved to be barren. The lamb production of the ewes in these years therefore was 70 per cent, 50 per cent, and 17 per cent, respectively. During the same period, lactation sometimes developed in unbred ewes and in wethers, and the males, whether castrated or not, seemed to be sexually attracted toward each other. The affected ewes never again became breeders.

When some of the land was put to growing grain such as barley and rye, to balance the sheep's diet, these troubles ceased. No scientific explanation of these troubles is presented, but it is suggested that too much green clover may have caused the unbalance of the sex hormones. Since using well-balanced mixed pastures, these troubles have not recurred.—*J. Dept. Agric. South Australia, Feb., 1952.*

# NUTRITION

## Knowledge of Vitamins Expands

Producers are striving for more meat in a shorter time at a lower cost. Livestock rations therefore must contain the essential nutrients but no wasteful excesses. Vitamins are organic compounds required in small quantities to maintain growth, health, reproduction, lactation, and to prevent deficiency diseases.

The author\* lists 16 vitamins which are now available in the crystalline form. They are:

- 1) Fat soluble vitamins—A, D, E, and K.
- 2) Water soluble vitamins—thiamin ( $B_1$ ), riboflavin ( $B_2$ ), pantothenic acid,  $B_6$ -pyridoxine, niacin, choline, biotin, inositol, folic acid, C,  $B_{12}$ , and  $B_T$ .

All are apparently required by farm animals but  $B_T$ -carnatine, recently isolated, which, like vitamin C, is probably synthesized in the animal body.

Some of the others, such as vitamin K and the B vitamin group, are synthesized in abundance in the rumen, so need not be added to the feed of older ruminants.

Vitamin A, of tremendous importance to the health of poultry and livestock, may soon be commercially available as a synthetic product. It occurs abundantly in certain animal products (fish oils) but not in plants. Its precursors, carotene and cryptoxanthin, sometimes called provitamins A, do occur in the plant pigments such as in green alfalfa and yellow corn. They are converted to vitamin A in the intestinal wall during absorption but with varying efficiency. Quadruped farm animals utilize only about 40 per cent of those available. These provitamins A are unstable and readily destroyed by oxidation, by the presence of light or minerals, or by high temperatures. When green plants such as alfalfa are sun-dried, much of the carotene is lost. When these substances are used to fortify mixed feeds, they should be fed as soon as possible or the vitamin effect will be lost.

Vitamin D is required especially by

growing, pregnant, or lactating animals for the prevention of rickets. It may be fed to them or they may obtain it through the action of sunlight on their bodies. Two forms are used in feeds— $D_2$  of plant (yeast) origin, obtained by the irradiation of ergosterol, and  $D_3$  of animal origin, obtained by the irradiation of 7-dehydrocholesterol.  $D_2$  is used in feed for cattle, sheep, and swine but is not satisfactory for poultry.  $D_3$  is satisfactory for all species. Vitamin D, also destroyed by oxidation, is lost from feed mixes less rapidly than vitamin A. It should not be mixed with trace minerals.

Vitamin E (alpha tocopherol) is not of practical importance for a feed. It is essential for most animals but is usually amply provided in ordinary feeds. Occasionally, its deficiency results in "crazy chick" disease or in "white muscle disease" of young ruminants. Once these deficiencies develop, vitamin E is of little curative value.

Vitamin K deficiency in chicks produces severe hemorrhages. It is necessary for the formation of prothrombin but, like the B vitamins, it is synthesized in the alimentary tract of most animals, especially ruminants.

Thiamin ( $B_1$ ) is required by all animals and deficiencies can be produced, but practical rations provide ample quantities. Like all B vitamins, it is readily synthesized by ruminants.

Riboflavin ( $B_2$ ) is often present in insufficient quantities. Deficiencies therefore may occur in chickens, turkeys, swine, and young calves. It should be added to feeds for these animals. It may deteriorate when mixed with feed.

Pantothenic acid is widely distributed in natural feeds yet deficiencies have occurred in chicks, poults, and pigs. Perhaps the previously accepted levels are insufficient for the recent, rapid growth rations.

Vitamin  $B_6$  (pyridoxine) deficiencies have not been reported but can be experimentally produced in chickens, turkeys, and pigs.

Niacin (nicotinic acid) is present in in-

\*Condensed from "The Feed Bag Red Book" (1952), by Dr. J. R. Couch, professor of poultry husbandry, biochemistry and nutrition, A. & M. College of Texas.

sufficient quantities in corn and tankage; therefore, deficiencies may occur in poultry and swine. It can be produced in the body from tryptophan but this amino acid is not plentiful in most feeds.

*Choline* is required by chicks, poults, and pigs. Like the amino acids, methionine and betaine, it serves as a methyl donor.

The amount required varies with the available supply of those amino acids and with vitamin B<sub>12</sub>. Commercial B vitamin mixtures containing choline, riboflavin, niacin, and calcium pantothenate are marketed for supplementing feeds. The latter three are now produced in quantities and are reasonable in price.

*Biotin* is widely distributed in natural feeds. It is required by young calves, chicks, poults, and pigs but deficiencies have not been reported except in turkeys.

*Inositol* is necessary for pigs and chicks but deficiencies have not been reported.

*Folic acid*, considered also as a B vitamin, is not likely to be deficient in natural feeds, but deficiencies in chicks, poults, and pigs can be produced.

*Vitamin B<sub>12</sub>*, isolated in 1948, has been the big vitamin discovery of recent years. For fifty years, it was known that animal proteins contained some growth factor not found in vegetable proteins. About 1940, it was found to be concentrated in the product known as the animal protein factor (APF). In 1950, after the remarkable growth-stimulating qualities of B<sub>12</sub> and the antibiotics were established, the term APF was abandoned. Vitamin B<sub>12</sub> not only accelerates growth and reduces feed costs, but it replaces quantities of animal proteins in the ration. It is as important to include 0.01 Gm. of B<sub>12</sub> in a ton of feed as it is to include 400 lb. of protein or 15 lb. of phosphorus. It is produced as a by-product of the antibiotics, but it is also present in animal proteins, especially the fish meals and fish solubles. It is required by all animals but, like most of the B vitamins, it is abundantly synthesized by ruminating animals. However, it contains 4 per cent cobalt; it can be synthesized only if sufficient cobalt is present. Cobalt deficiencies can be corrected by the injection of vitamin B<sub>12</sub>. It has been reported as not required by some growing turkeys. Probably sufficient B<sub>12</sub> was contained in the eggs to supply these young poults.

*Antibiotics* are not vitamins but have

demonstrated remarkable growth-stimulating faculties for chickens, turkeys, pigs, and calves up to about 16 weeks of age. The mode of action of antibiotics has not been determined but they apparently influence the activity of microorganisms within the gastrointestinal tract. The four antibiotics most used in commercial feeds are aureomycin, bacitracin, penicillin, and terramycin.

*Unidentified factors* for growth promotion apparently exist. When certain feeds are added to rations which already contain all of the known essential elements, still more rapid growth is obtained. At least two unidentified growth factors may be yet identified. One seems to be present in dried whey, dried brewers' yeast, and butyl molasses solubles; another in fish meal, fish solubles, and liver preparations. Small quantities of some of these should be included in feeds for chickens, turkeys, and swine.

### **Influence of Raw Soybeans on Vitamin A Storage in Calves**

Soybeans or soybean hays frequently have been reported to be responsible for vitamin A deficiency in cattle. In this experiment, quantitative measurements of carotene and of vitamin A in the blood plasma and of vitamin A in the liver were made in calves fed soybeans in a ration with a known carotene content.

When 14 days old, two Ayrshire calves and two Holstein-Friesians were placed on a vitamin A deficient diet. When the vitamin A in their blood was considered depleted, each calf was given slightly more than a minimum requirement of carotene in its diet for the remainder of the experiment. After two weeks on the carotene supplement, 1 calf of each breed was continued on the above diet while the other 2 were placed on a soybean test diet. The basal diet consisted of 180 lb. of wheat bran, 240 lb. of barley, 60 lb. of linseed meal, and 8 lb. of salt. The soybean diet was the same except that 140 lb. of the barley and all of the linseed meal were replaced by 200 lb. of raw soybean meal. Each diet was fortified with D-activated plant sterol and each calf received 1 lb. of skimmilk, daily.

The soybean diet resulted in considerable lowering of both plasma vitamin A and



plasma carotene, but the vitamin A values were lowered more than the carotene values. At the end of the 170-day experiment, the vitamin A content of the liver was even more reduced by the soybean feeding.

The possible mechanism by which the raw soybean diet lowers the blood level of carotene and vitamin A and reduces the liver storage of these items is not explained. However, soybeans are supposed to contain an enzyme capable of destroying carotene by oxidation.

Soybean hay fed to rabbits is reported to have caused reproductive disturbances, supposedly because of the enzymatic destruction of the carotene in the soybean hay. Reproductive disturbances have also been reported in sheep fed on soybean hay. —*Nutr. Rev.*, Jan., 1952.

### The Alleged Disappearance of Hunger During Starvation

Formerly, it was believed that the sensation of hunger disappeared a few days after total starvation commenced. Now it is believed that hunger, in some form, normally persists as long as life is maintained.

In man, the hunger sensation does seem to be modified, or less acute, after the first few days of fasting, but periodic gastric

contractions persist. These periodic gastric contractions also persist in a prolonged starvation of dogs and rabbits. Some rats, after being fasted fifteen to twenty-five days, were so voracious that when they were fed, they apparently killed themselves from overeating. Their stomachs were greatly distended with food but little had been digested or absorbed. Also, hibernating animals resume eating after prolonged abstinence, presumably because of hunger. —*Science*, May 9, 1952.

Dried whey apparently contains unidentified nutrients essential for maximum chick growth. This was indicated, during 1951 studies, when the addition of 3 to 5 per cent of whey to rations already supplemented with APF concentrates and antibiotics resulted in further increased gains. —*Borden's Rev. Nutr. Res.* Jan., 1952.

The feeding of antibiotics in the ration had no demonstrable advantage in controlling the lesions of swine erysipelas experimentally induced. The antibiotics used were penicillin and terramycin.—G. R. Spencer, D.V.M., et al., *State College of Washington*.



A litter of 18 hybrid pigs in Spring Grove, Minn., thrives on terralac, a synthetic sow's milk. These pigs weighed a combined 840 lb. at 8 weeks of age.



# EDITORIAL

## Trichloroethylene-Extracted Soybean Meal Withdrawn from the Market

On May 27, 1952, about 50 men representing many different vocations sat down together in a room in St. Paul, Minn., and for eight hours discussed a vexing problem which, to a varying degree, concerned them all.

The conference had been called by Dr. H. Macy, director of the Minnesota Agricultural Experiment Station to discuss "problems related to the manufacture and biological effects of trichloroethylene-extracted soybean oil meal." Dr. M. D. Schultze of the station presided.

This trichloroethylene-extracted meal, which has never represented more than about 1 per cent of the soybean meal produced at any time in this country, had been accused of causing the poisoning of cattle in several states since it was first recognized in Iowa by Dr. C. H. Covault of Iowa State College in 1948. The latest, extensive, poisoning endemic occurred this past winter and spring in Montana and western North Dakota where hundreds of cattle died. A drought in 1951 and heavy snows in the region last winter made it necessary to use any feeds that were available.

Represented at the conference were 15 commercial feed producers, the Soybean Research Council, the Soybean Processors Association, four college research departments, the Montana State Board of Health, the American Medical Association Council on Foods and Nutrition, two state livestock sanitary boards, three practicing veterinarians from Montana, the American Veterinary Medical Association, and others. Nearly all took part in the discussion.

Due to the slow, cumulative action of this still-unidentified poisonous factor, exhaustive research was required before definite conclusions could be drawn. And since cattle had to be used as the experimental animals, the research has been costly. It has been a major research project only at the University of Minnesota and at Iowa State College. The findings of the latter

were reported chiefly by Dr. J. C. Pickens (not yet published) and of the former by Dr. Wm. Pritchard.<sup>1</sup>

Dr. M. J. Twiehaus of Kansas State College<sup>2</sup> reported on an extensive study of a herd of 400 feeder steers, which suffered heavy losses from this poisoning a year ago. Recent experimental poisoning of sheep, with known toxic meal, at North Dakota stations was reported chiefly by Dr. D. F. Eveleth of North Dakota State College.

Brief reports were made by several on the heavy feeding of this toxic meal to other species. One horse recently died with typical symptoms at the University of Minnesota, after having been fed large quantities for six months. No definite poisoning of other large animals, poultry, or laboratory animals was reported.

The trichloroethylene method of extracting oil from soybean meal has been used in this country only since the last war and by just a few of the smaller producers. This method has been used because it required less elaborate equipment than other methods. Since it became experimentally evident, over a year ago, that this particular type of meal was actually poisonous for cattle, the processors, by use of labels on the containers, have attempted to prevent it being fed to ruminants. When reports from Montana last winter indicated that this warning was not effective, these plants discontinued production and withdrew their "trichlor-meal" from the market.

The similarity between this poisoning

<sup>1</sup>Pritchard, W. R., Rehfeld, C. E., and Sautter, J. H.: Aplastic Anemia of Cattle Associated with Ingestion of Trichloroethylene-Extracted Soybean Oil Meal. I. Clinical and Laboratory Investigation in Field Cases, J.A.V.M.A., 121, (July, 1952): 1-8; and Aplastic Anemia of Cattle. II. Necropsy in Field cases, J.A.V.M.A., 121, (August, 1952): 73-79.

<sup>2</sup>Twiehaus, M. J., and Leasure, E. E.: The Presence of a Hemorrhagic Factor in Soybean Pellets Extracted with Trichloroethylene as a Solvent when Fed to Cattle. Vet. Med., 46, (1951): 428-431.

and bracken fern poisoning<sup>2</sup> has been noted. In both poisonings, one usual symptom when symptoms finally develop is a high temperature. This is probably due to collapsed resistance which allows secondary infections to thrive. Administering sulfonamides and antibiotics often reduces the temperature but apparently does not alter the course of the disease.

With the production of trichloroethylene-processed soybean meal now discontinued, we sincerely hope that *finis* can be written to another chapter on dangerous poisons. Whether or not this proves to be so, the Minnesota Agriculture Experiment Station deserves distinct credit for sponsoring a vitally important and very effective conference.

<sup>2</sup>Suppel, Wm. L.: Bracken Fern Poisoning. J.A.V.M.A., 121, (1951): 9-15.

### The JOURNAL Bows to Dr. Leunis Van Es

Dr. Leunis Van Es was honored recently by the North Dakota Agricultural College where he started his memorable career forty-nine years ago.

Since this issue of the JOURNAL carries the report of that event (*see* p. 139), we take this opportunity to add our tribute to Dr. Van Es. His name was placed on the AVMA honor roll in 1950 in recognition of fifty years of continuous membership and he still frequently contributes foreign abstracts to the JOURNAL.

The records show that between 1894 and 1949 Dr. Van Es published at least 100 valuable bulletins or articles in major journals. Of these, 22 dealt with avian diseases, 21 with swine diseases, and 13 with bovine diseases. As to specific diseases, 22 of his articles were concerned with tuberculosis, 8 with swine erysipelas, 7 with pasteurellosis, 5 with "abortion" disease or brucellosis, others with anthrax, hog cholera, swamp fever, glanders, and various other subjects ranging from bursatec (summer sores) to bloot.

Dr. Van Es' contributions on all these subjects have been significant but the veterinary profession, particularly large animal practitioners, should be especially grateful to him for his monumental contributions to our knowledge of at least two diseases—pasteurellosis and swine erysipelas. Perhaps his most valuable publication

regarding swine erysipelas was the report of the investigation of the sensitiveness of the erysipelas bacillus (his term) to different soil conditions. This fundamental bit of research provides a very plausible explanation for the marked variability of the disease.

With regard to what was then called "hemorrhagic septicemia", Dr. Van Es' pronouncements might be considered as mostly a negative contribution, but it was one of his greatest contributions to veterinary medicine. The diagnosis "hemorrhagic septicemia" was just achieving its great popularity, prior to World War I, when Dr. Van Es, and a few others after some critical research, expressed serious doubts about its being a major disease entity in this country and, especially, on the value of the biological agents which were being developed to cope with it. Needless to say, his stand was decidedly unpopular and caused considerable criticism. His reply to the critics was published in the February, 1921, issue of the JOURNAL. True, his was like a voice crying in the wilderness and apparently did little at the time to stem the tide. However, his unflinching attitude toward what he considered to be unjustified claims played no small part in the gradual de-emphasis of the disease and the eventual substitution of the more proper term of pasteurellosis, instead of hemorrhagic septicemia, for the few instances where the disease may actually occur in mammals. One of his former aids said of Dr. Van Es. "With unerring judgment he has been able to sift the fundamental facts from the superficial and trivial, with which he has little patience. . . . The passing years have revealed few errors in the conclusions reached . . . in his laboratory."

The JOURNAL heartily endorses that estimate of Dr. Van Es' great service to veterinary science and to our profession.

At least six Kansas State College junior students in veterinary medicine have been hired by the U. S. government for summer jobs between their junior and senior years.

The government is frank in admitting that the summer training offered is "to encourage students to seek employment with the government upon graduation."  
—Kansas State College News Bureau, Manhattan.

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# CURRENT LITERATURE

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## B Complex Avitaminosis with Oral Aureomycin

Oral vitamin B complex supplement should be given to all human patients receiving oral aureomycin for periods longer than a week, since the aureomycin inhibits the normal growth of intestinal bacteria, which produces vitamin B. A patient developed soreness of the tongue and deficiency symptoms after three weeks of treatment. The oral aureomycin was continued but vitamin B complex was also administered orally. Marked improvement was seen within five days, and in ten days all oral tissues appeared normal.—[William C. Schulte: *Oral Surg., Med., and Path.*, 5, (1952): 279-280.]

## Mastitis and *Cryptococcus Neoformans*

The udders of 106 animals in a 235-cow Holstein-Friesian dairy herd became infected during the period of a year with *Cryptococcus neoformans*, the causative agent of human cryptococcosis. The majority of the 55 infected animals, which had visibly abnormal conditions of their udders or milk, had severe attacks. The latter were characterized by extreme distention of the gland that gradually developed over a period of one to two weeks and persisted for several more, marked reduction in milk with a change to a gray-white, highly viscid, and mucoid secretion.

Usual mastitis control methods were reasonably successful in coping with the problem but udder infusions using various antibiotics gave no clinical relief. It appeared that an increase in the resistance of the herd or a reduction in the virulence of the infection assisted materially in bringing the outbreak under control.—[W. D. Pounds, J. M. Amberson, and R. F. Jaeger: *A Severe Mastitis Problem Associated with *Cryptococcus Neoformans* in a Large Dairy Herd*. *Am. J. Vet. Res.*, 13, (April, 1952): 121-128.]

## Toxoplasmosis in Swine

A protozoan parasite, heretofore not known to occur in swine, was observed microscopically in the pulmonary, lymph node, intestinal, and hepatic lesions of 8 diseased hogs. The organism recovered from the liver, spleen, and heart of infected pigs by mouse inoculation was identified as *Toxoplasma gondii*. The porcine *Toxoplasma* were found to be morphologically and serologically indistinguishable from *Toxoplasma* of canine and human origin. *Toxoplasma* antibodies were demonstrated in the serum of spontaneously and artificially infected pigs. Porcine *Toxoplasma* proved to be pathogenic for swine, dogs, and mice

and was reobtained from these species in the absence of other pathogens.—[R. L. Farrell, F. L. Docton, D. M. Chamberlain, and C. R. Cole: *Toxoplasmosis. I. Toxoplasma Isolated from Swine*. *Am. J. Vet. Res.*, 13, (April, 1952): 181-185.]

## Avian Encephalomyelitis

Data from a geographic survey indicates that avian encephalomyelitis (AE) has become widespread throughout the United States. A ten-year survey of field outbreaks of AE in Connecticut reveals that it continues to show an epizootic periodicity with a minor period of prevalence in the fall and a major one in the spring months. A "head-mashing" technique of virus preparation from brain material is described which offers several advantages over previous methods. The intraocular route is shown to be an effective method of transmitting AE to susceptible chicks, although not as effective as the intracerebral route.

A statistically significant difference in susceptibility to AE was demonstrated in specific strains of breeds. This difference could not be explained immunologically when serum samples from these strains were examined for neutralizing antibodies. The first successful infection of adult birds was accomplished by an intraperitoneal injection of AE virus. The virus could be recovered from the brains of the adult birds.—[F. Feibel, C. F. Helmbold, E. L. Jungherr, and J. R. Carson: *Avian Encephalomyelitis—Prevalence, Pathogenicity of the Virus, and Breed Susceptibility*. *Am. J. Vet. Res.*, 13, (April, 1952): 260-266.]

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## FOREIGN ABSTRACTS

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### Leptospirosis in Dogs

On serological examination of 80 dogs from one city, 32 per cent proved to be infected with leptospirosis. The disease was usually acute in young dogs, caused by *Leptospira canicola*, and latent in older dogs. The majority of cases were infected with *Leptospira icterohemorrhagiae*.

The titer of the serum probably remains positive for years or the entire lifetime. There is no anatomical-pathological or histological difference between serological positive or negative animals. Neither anatomical nor histological differentiation of latent, chronic, or past leptospirosis is possible.—[U. Freudiger: *Contribution to the Pathological Anatomy and Serology of Leptospirosis in Dogs*. *Schweiz. Arch. f. Tierheilk.*, 94, (1952): 102.]—F. KRAL.

### Sea Water as a Therapeutic Agent in Horses

The author used 100 to 500 cc. of sea water for subcutaneous and intravenous injections in emaciated horses and achieved an increase of about 50 lb. in body weight per animal within four weeks. No damaging influence had been noted.—[K. H. Mockel: *Sea Water as a Therapeutic in Horses*. *Monatsh. f. Vet. Med.*, (1952): 31].—F. KRAL.

### Shave Grass Intoxication in Horses

Symptoms, course, and anatomical lesions of "shave grass" intoxication in horses are similar to those of B<sub>1</sub> avitaminosis. The intoxication can be inhibited or interrupted by feeding brewer's yeast or vitamin B<sub>1</sub>.

The acting substance in the shave grass acts like an antivitamin. The disease resembles the chaste paralysis in foxes, fern intoxication, and dog hysteria.—[S. Forenbacher: *Shave Grass Intoxication in Horses—A B<sub>1</sub> Avitaminosis*. *Schweiz. Arch. f. Tierheilk.*, 94, (1950): 153.].—F. KRAL.

### "Three-Day" Sickness

The author discusses the previous outbreaks of this disease in Israel, in 1930, when it was misdiagnosed as tick fever. Native animals seemed to have more resistance to the disease than cross-bred cattle. The symptoms are stiffness of both forelegs or hindlegs, temperature of 40 C., discharge from the nose and eyes, anorexia, cessation of rumination, constipation, arching of the back, and tympanites. There is a decided drop in milk flow, and sometimes abortion occurs. The disease usually lasts two to three days, but some cases lasted ten days. Some terminated fatally, mostly as a result of cardiac or pulmonary complications. Treatment with drugs did not seem to effect the course of the disease, but cows which did not go down recovered readily. Postmortem changes showed an enlarged spleen, yellowish liver, and blood that did not clot readily.—[A. Shoshan: *First Acquaintance with Three-Day Sickness*. *Refuah Vet.*, 8, 1951.].—M. E.

## BOOKS AND REPORTS

### Comparative Physiology of Thyroid and Parathyroid Glands

This is publication No. 118 of C. C. Thomas Company's American Lecture Series, a monograph in American Lectures in Endocrinology, edited by W. O. Thompson. The author briefly reviews some of the published literature on the thyroid and parathyroid glands. More than half of the book deals with mammals, especially laboratory animals, domestic animals, monkeys, and man. The other half of the monograph is devoted to various amphibians, reptiles, birds, and fishes. A short concluding chapter recapitulates some of

the material of general interest to the zoölogist.

In the chapter on mammals, reference is made to some of the experimental work on dogs, cats, ruminants, and swine. A few of the clinical conditions in swine and cattle related to the thyroid or parathyroid glands are mentioned, e.g., sudden heart failure in swine, iodine deficiency in pigs, cretinism in swine, and milk fever in cows. The space devoted to this phase of the subject is brief and largely confined to material already available in standard veterinary medical textbooks and monographs.

The book is of most value for readers interested in the special endocrinology of the thyroid and parathyroid glands or for zoölogists and others interested in comparative endocrine mechanisms. The bibliography contains over 200 references.—[*Comparative Physiology of the Thyroid and Parathyroid Glands*. By Walter Fleischmann. 78 pages. C. C. Thomas, Springfield, Ill. 1951. Price \$2.25.].—D. K. DETWEILER.

### Clinical Parasitology

The primary duty of the veterinarian is the control of animal diseases, including those of parasitic origin. His second most important duty is to work with the human medical and public health professions in preventing the transmission to man of animal diseases many of which are caused by Protozoa, helminths, or arthropods.

Although intended for physicians and public health workers, this second edition by David L. Belding, M.D., should be of considerable interest to veterinarians. The author appears to be well acquainted with the parasites of domesticated and wild animals, especially those shared by animals and man. Approximately 200 species of parasites of animals are discussed or mentioned.

This book is clearly written, well printed, and it contains an abundance of line drawings, photographs, charts, and references.—[*Textbook of Clinical Parasitology*. By D. L. Belding, M.D. 1139 pages. 282 illustrations. Appleton-Century-Crofts Inc. New York, N. Y. Price \$12.00.].—E. A. BENBROOK.

### Swine Husbandry

This is the fifth book, by the same author, in a series on domestic animals. It is the interesting and comprehensive story of the swine industry in the United States from the time of DeSoto to the present. It contains information on the type and breeds of swine, on selecting and judging, on breeding and feeding. The difference in pastures and feeds used in raising swine in various sections of the nation are carefully delineated. The chapter on "Swine Health, Disease and Parasite Control" is cautiously written and reasonably accurate. The entire text is informative and readable.—[*Swine Husbandry*. By M. E. Ensminger. 370

pages. *The Interstate Printers and Publishers, Danville, Ill.* 1952. No price given.]

### The Auburn Veterinary Handbook

This unique notebook, prepared by 11 senior students and 5 others at Alabama Polytechnic Institute, Auburn, is a revision of the original which was published in 1947. Each author is responsible for one chapter. The material is taken from their lecture notes and is supplemented by other references. Nine chapters discuss the specific common diseases of species of animals with a brief list of treatments for each. The other seven chapters discuss general subjects such as drugs and equipment carried with an ambulatory car, supplies and equipment used in a diagnostic laboratory, etc. The chapters on parasites and operative surgery seem well done. The chapter on pharmacology includes many formulas which are becoming obsolete and could well have been omitted.

In all, it is a worth-while compilation which should be of value to the members of the class who listened to those lectures. It should be an improvement on the notes compiled by any one student. The inclusion of references to articles written by various authorities is especially worth-while and might be greatly extended. Such a handbook with a more complete list of references included with each disease condition discussed might find a considerable market among practitioners.—[*The Auburn Veterinary Handbook—An Index to Diagnosis and Treatment*. By 16 authors. Paper. 177 pages. *The Auburn Veterinarian, Auburn, Ala.* 1952. No price given.]

### Nature of Disease Institute

The odd nature of this vague book is best exemplified by the fact that the first 58 pages are called introduction. This includes a great amount of irrelevant material that is meaningless to the average teacher or practitioner of veterinary medicine. There may be many stimulating thoughts in the book for the ultra-modern biochemist or nutritionist, but they are hidden in language impossible to follow.

Not all that is recorded is based on experience with animal diseases. In the physico-chemical section, the comments on tuberculosis include the following, "I have adduced these points because I have been forming the opinion, rightly or wrongly, that the tuberculin testing of cattle every so many months is tending to break down the immunity they appear to have established against paratuberculosis, or so called 'John's Disease.'" That is typical.

This unusual accumulation of words may have value in provoking thought in the young scientist who is planning to devote his life to basic research in the nature of old and new diseases of animals and man. It is completely unreadable and useless for practitioners.—[*The Nature of*

*Disease Institute—Third Annual Report*. By J. E. R. McDonagh. Cloth. 451 pages. *William Heinemann, Medical Books, Ltd., London.* 1951. Price not given.].—M. G. FINCHER.

### Meat Inspection

The fourth edition of "Veterinary Meat Inspection" by Dr. Schonberg, professor of meat hygiene, and Dr. Zietzschmann, professor of anatomy, has been essentially revised.

In the initial chapter, the anatomy of the lymphatic system of porcine, bovine, and equine species has been worked out in exact detail. In other parts of this publication, the veterinary inspection of carcasses has been discussed with regard to the technique and legal regulations pertaining to the important and most frequent disorders and diseases. It deals with the meat inspection of cattle, calves, pigs, sheep, goats, horses, and dogs.

The legal regulations described in this publication are, of course, discussed with regard to the laws valid in Germany.

The numerous illustrations are descriptive and illustrate normal as well as pathological findings in various species of animals.—[*Tierärztliche Fleischuntersuchung (Veterinary Meat Inspection)*. By F. Schonberg and O. Zietzschmann. 4th ed. Cloth. 322 pages. 169 illustrations. *Paul Parey, Berlin.* 1951. Price 37 marks.].—F. KRAL.

### Bacteriological Meat Inspection

After a short history of meat inspection, the causes of meat poisoning are discussed and some statistical data noted.

A further chapter is devoted to the problem of avoiding meat poisoning, with regard to the bacteriology of the paratyphus-enteritis group and to the technique of bacteriological meat inspection.

In the final chapter botulismus has been briefly described.—[*Bakteriologische Fleischbeschau (Bacteriological Meat Inspection)*. By R. Standfuss. 4th ed. 96 pages. 8 illustrations. *Paul Parey, Berlin.* 1951. Price 14 marks.].—F. KRAL.

### Suturing

The author presents in a condensed form various types of surgical sutures. He describes first the different material used in suturing and then he explains with instructive pictures various methods of suturing of wounds, tendons, blood vessels, nerves, stomach, intestines, and other special types of suturing.

The booklet contains 48 illustrations and may be of value to students as well as practitioners.—[*Die Chirurgischen Nahte (Surgical Suturing)*. By K. Ammann. 64 pages. 48 illustrations. *Akademische Buchgenossenschaft, Zurich.* 1951. Price 8.10 Swiss francs.].—F. KRAL.



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# THE NEWS

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## **Congress Fails to Act on Military Grade and Pay Bills**

Congress adjourned early in July without holding hearings on H. R. 6533 and S. 2738. These bills were introduced at the request of the AVMA. They would have, if enacted, raised the grade at which veterinarians could be commissioned following graduation and granted \$100 a month bonus pay to Veterinary Corps officers (see May JOURNAL, p. 320).

The Armed Services Committees would not schedule hearings on these bills until the recommendations were received from the Department of Defense. Even though these bills were referred to the Department of Defense in February, no report was returned to the Armed Services Committees before Congress adjourned.

The Association made repeated efforts to get the report from the Department of Defense submitted to the committees without success. Many letters and telegrams were sent by interested AVMA members to members of the Armed Services Committees. Also representatives of the Association travelled to the capitol in an effort to stimulate action from the Defense Department. Finally, a letter was addressed to the Secretary of Defense asking for an explanation of this inexcusable delay. On June 25, a letter was received from the Assistant Secretary of Defense indicating that "final policy concurrences on the report" had been received and were being prepared in final form for submittal to the Bureau of the Budget. Of course, with Congress adjourning early in July there was no possible chance of congressional action before adjournment.

These bills or similar legislation will be introduced in the next Congress and the Association will continue to strive for the enactment of this legislation.

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## **Special Pay for Physicians and Dentists in Service Extended**

In the closing hours of the 82nd Congress the House of Representatives passed S. 3019 which extended the payment of the \$100 a month special "inducement" or "compensatory" pay to physicians and dentists in the Armed Services until July 1, 1953.

As reported in the June JOURNAL, p. 406, the AVMA tried to have Veterinary Corps officers included in the provisions of this bill. Although practically every reason for extending this special pay for physicians and dentists is equally applicable to veterinarians on active duty the senators could not be induced to include the Veterinary Corps.

No public hearings were held on this bill by the

House Armed Services Committee. Practically every member of the House Committee was asked to support the inclusion of veterinarians but a "rump" session was held a day previous to the scheduled meeting of the Committee which recommended favorably on the bill to the House which passed it immediately.

The present expiration date, July 1, 1953, of this provision for the special pay is coincidental with the expiration of the "doctors draft" law. No doubt an effort will be made to continue this special pay to physicians and dentists and, if so, the AVMA will surely attempt to secure the additional pay for Veterinary Corps officers too.

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## **Dr. E. C. Stone New Dean at Washington State**

Dr. Ernest C. Stone (WSC '42) will become dean of the College of Veterinary Medicine, Washington State College on Sept. 1, 1952. He is now chairman of the Department of Veterinary Physiology and Pharmacology.

Born at Ogden, Utah, Dr. Stone is a graduate of Ely, Nev., high school. He received



Dr. E. C. Stone

his B.S. degree in 1936 from Utah State Agriculture College at Logan, and his M.S. degree in 1938 from Washington State College.

He first served on the college staff during 1936-1938 as a teaching fellow in chemistry. In September, 1946, he became a full-time staff member, moving from private veterinary



practice and some state regulatory work at Kalispell, Mont. Coming as assistant professor of veterinary physiology and pharmacology, he was advanced to associate professor in December, 1947, and was later (April, 1948) made department chairman.



Dr. J. E. McCoy, retiring dean of Washington State College (see p. 71, July JOURNAL)

Dr. Stone is a lieutenant commander in the Naval Reserve. He was in uniform for twenty-seven months in World War II.

He is a member of the research team which, under a grant from the Aluminum Company of America, is working on fluorosis of cattle.

## STUDENT CHAPTER ACTIVITIES

**Alabama Chapter.**—During the spring semester of the 1951-1952 school year, the following speakers addressed the Alabama Polytechnic Institute Student Chapter of the AVMA: **Drs. W. A. Aitken** and **R. E. Rebrasier**, of the AVMA Council on Education; **D. E. Davis**, associate professor of botany and plant pathology at A.P.I.; **Hayden Rogers**, professor of agronomy at A.P.I.; **J. T. Miller**, of Louisiana State University, Baton Rouge; **Capt. W. G. Hoag**, of the Army Medical School, Washington, D. C.; **C. D. Van Houweling**, assistant executive secretary of the AVMA; **John Leith**, (D.D.), minister of the First Presbyterian Church in Auburn; **Mr. Frank Stewart**, commissioner of agriculture of Alabama; and **A. H. Quin**, of Jen-Sal Laboratories, Kansas City, Mo.

At the May 27 meeting, **Dean Sugg** presented the following student honor awards: The Borden Award for the senior with the highest scholastic average in the veterinary medical curriculum prior to his or her senior year (\$300 and a certificate) to **Thomas Abner Hawkins**; **John Gillmann Award** for scholastic standing and efficiency in surgery and medicine (\$25) to **William R. Ross**; **E. A. Davis Award** to the most outstanding clinicians in large and

small animal clinics (first, \$15) to **T. C. Needham**, (second, \$10) to **C. E. Barton**; **Student Chapter Award** to the outstanding senior in the School of Veterinary Medicine who in the opinion of the student body and faculty has shown by his scholarship, personality, character, and intensity of purpose, that he is capable of elevating the prestige and expanding the service of veterinary science (a certificate and key) to **William R. Ross**; **Tedder Award** to the senior most adept in applying the knowledge gained in the study of veterinary medicine (\$100 in instruments) to **E. H. Hayes**; **Women's Auxiliary to the AVMA Award** to the senior who advances the standing of the veterinary college on the campus (\$25) to **C. E. Barton**; **Albany Serum Company Award** to the junior adjudged most likely to succeed in the practice of veterinary medicine to **John W. White**; the **Upjohn Company Awards** to the seniors most proficient in large animal clinical studies and small animal clinical studies (a filled physician's case) to **W. R. Harper** and **Charles B. Phillips**; **Danforth Summer Leadership Training Scholarship** to the outstanding male freshman (entire attendance cost of two weeks of intensive leadership training at the American Youth Foundation Leadership Training Camp in Shelby, Mich.) to **A. C. Newman, Jr.**; **Award of the Women's Auxiliary** to the Alabama V.M.A. to the sophomore with highest scholastic average (\$20) to **Thomas W. Weatherford**.

The following officers were installed for the fall term of the 1952-1953 school year: **C. Bert Hill**, president; **Aaron Groth**, president-elect; **George Shifflet**, vice-president; **Luther Albert**, secretary; **Shelton Pinkerton**, treasurer; **Dr. R. S. Sugg**, faculty advisor; and class representatives **John Cooksey** (senior), **Bud Bryan** (junior), and **Dan Thomas** (sophomore). **Buck Sharmon** was appointed as chapter representative to the AVMA convention in Atlantic City.

s/J. BRANNEN MURPHY, Secretary

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**Minnesota Chapter.**—A resumé of the activities of the University of Minnesota Student Chapter of the AVMA for the spring semester of the 1951-1952 school year follows:

On Feb. 25, 1952, the chapter made arrangements for the mobile blood unit to come to the campus, and almost 100 per cent of the chapter members donated blood. At the regular election on April 2, the following officers were elected: **Albert Luedke**, president-elect; **David Long**, vice-president; **Carl Johnson**, secretary; **Albert Batchelder**, treasurer; **Roy Hendricks**, sergeant-at-arms; and **Dr. J. P. Arnold**, faculty advisor. It was voted that the incoming pres-

ident be the chapter delegate to the AVMA convention in Atlantic City.

Dr. W. L. Boyd, director of the School of Veterinary Medicine and president-elect of the AVMA, was honored at the annual spring banquet on May 3. The School held open house on May 17-18. At the final meeting of the year, the graduating seniors were guests of the chapter.

s/LYLE KANSANBACK, *Corresponding Secretary*

## WOMEN'S AUXILIARY

**Michiana Auxiliary.**—In conjunction with the biannual clinic of the Michiana Veterinary Medical Association on May 22, 1952, the Michiana Auxiliary entertained the wives of members and guests at a tea in the Hotel LaSalle, South Bend, Ind., from 3:00 to 5:00 p.m.

After a welcome by the president, Mrs. Allen J. Winter, Benton Harbor, Mich., the program chairman, Mrs. E. S. Weisner, Goshen, Ind., introduced Mrs. Pickrell, of Middlebury, Ind., who presented a series of entertaining readings. This was followed by a humorous skit about 1952 fashions with Mrs. W. G. Magrane, Mrs. J. Fishler, Mrs. J. H. Gregg, and Mrs. Frank Booth participating.

Tea was served from a beautifully appointed table, with Mrs. J. E. Carver and Mrs. A. J. Winter pouring.

s/MRS. R. W. WORLEY, *Secretary*

**Southwestern Wisconsin Auxiliary.**—The officers of the newly formed Women's Auxiliary to the Southwestern Wisconsin Veterinary Medical Association are: Mrs. R. B. Hipenbecker, Fennimore; Mrs. F. W. Baker, Blanchardville; Mrs. W. A. Thomson, Platteville; and Mrs. M. L. Kaster, Cuba City.

s/MRS. J. W. WILSON, *Publicity Chairman*

## APPLICATIONS

### Applicants — Members of Constituent Associations

In accordance with paragraph (b) of Section 2, Article X, of the Administrative By-Laws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., the names of applicants residing within the jurisdictional limits of the constituent associations shall be published once in the JOURNAL.

The following applicants have been certified as members of the constituent association that has jurisdiction over the area in which the applicant resides. This certification was made by the secretary of the constituent association in accordance with Section 2, Article X, of the Administrative By-Laws.

BERNHARDT, RALPH W.

Enderlin, N. Dak.

M.D.C., Chicago Veterinary College, 1911.

BOAM, GRANT O.

1953 Lincoln Lane, Murray, Utah.

D.V.M., Colorado A. & M. College, 1949.

CALDWELL, RAYMOND E.

302 Cottonwood St., Grand Forks, N. Dak.

D.V.M., Michigan State College, 1947.

CHASTAIN, CLAUDE B.

Box 768, Brownwood, Texas.

D.V.M., Texas A. & M. College, 1943.



In the front row are the officers of the Women's Auxiliary to the State Association (left to right)—Mrs. Rolland Anderson, Mrs. C. H. Reading, Mrs. W. Winner, and Mrs. D. K. Sorenson. Back row—Officers of the Women's Auxiliary to the Southwestern Association: Mrs. R. B. Hipenbecker, Mrs. F. W. Baker, Mrs. W. A. Thomson, and Mrs. M. L. Kaster.

**DINWOODIE, JOHN T. E.**

820 Kelly Ave., Devils Lake, N. Dak.  
V.M.D., University of Pennsylvania, 1913.

**GOIN, JAMES W.**

4715-50th Ave., Wetaskiwin, Alta.  
D.V.M., Ontario Veterinary College, 1949.

**LAGRANGE, WALTER E.**

University of Pennsylvania, School of Veterinary Medicine, 39th & Woodland Ave., Philadelphia 4, Pa.

D.V.M., Ontario Veterinary College, 1938.

**MCCULLOUGH, RUSSELL H.**

1516 Oakview Dr., Silver Spring, Md.  
V.M.D., University of Pennsylvania, 1936.

**MCINTOSH, JOHN P.**

High Rd., Kensington, Conn.  
D.V.M., Cornell University, New York State Veterinary College, 1928.

**MAGWOOD, STUART E.**

Sussex, N. B.  
D.V.M., Ontario Veterinary College, 1943.

**NUNN, JOHN R.**

Rt. 1, Box 272-A, Kerrville, Texas.  
D.V.M., Texas A. & M. College, 1946.

**PEACOCK, WALTER H.**

State Street Animal Hospital, 1025 State St., Waycross, Ga.  
D.V.M., Alabama Polytechnic Institute, 1949.

**SCHULZ, CARL W.**

718 E. High St., Jefferson City, Mo.  
D.V.M., Kansas State College, 1934.

**SHEARER, H. H.**

66 Federal Bldg., Chattanooga 1, Tenn.  
D.V.M., Iowa State College, 1920.

**STUEWER, GEORGE H.**

511 N. Lafayette, Greenville, Mich.  
D.V.M., Michigan State College, 1943.

**TUCKERMAN, EDWIN D.**

Germantown Pike, Plymouth-Meeting, Pa.  
V.M.D., University of Pennsylvania, 1928.

**TYRRELL, GEORGE W.**

62 Highland Ave., Torrington, Conn.  
D.V.M., Ontario Veterinary College, 1939.

**Applicants — Not Members of Constituent Associations**

In accordance with paragraph (b) of Section 2, Article X, of the Administrative By-Laws, as revised at the annual meeting of the House of Representatives, Aug. 18, 1951, in Milwaukee, Wis., notice of all applications from applicants residing outside of the jurisdictional limits of the constituent associations, and members of the Armed Forces, shall be published in the JOURNAL for two successive months. The first notice shall give the applicant's full name, school, and year of graduation, post office address, and the names of his endorsers.

**ADAMS, CARROLL E.**

Camp San Luis Obispo, San Luis Obispo, Calif.  
D.V.M., State College of Washington, 1944.  
Vouchers: E. P. Hornickel and H. R. Lancaster.

**FARMER, GARLAND R.**

2749 S. Glencoe, Denver, Colo.  
D.V.M., Colorado A. & M. College, 1945.  
Vouchers: J. D. McCluskie and G. H. Gilbert.

**WEDMAN, ELWOOD E.**

Office of the Station Veterinarian, Fort Dix, N. J.

D.V.M., Kansas State College, 1945.

Vouchers: R. M. Grandfield and O. K. Fox.

**Second Listing**

**MANALANSAN, MARTIN R.**, Moanalua Dairy Ltd., 1950 N. King St., Honolulu 45, T. H.

**RYU, EIHYO**, Department of Animal Husbandry & Veterinary Science, College of Agriculture, National Taiwan University, Taipei, Taiwan, China.

**1952 Graduate Applicants**

**First Listing**

The following are graduates who have recently received their veterinary degree and who have applied for AVMA membership under the provision granted in the Administrative By-Laws to members in good standing of student chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk (\*) after the name of a school indicates that all of this year's graduates have made application for membership.

**Alabama Polytechnic Institute\***

**BENTLEY, OTIS E., Jr.**, D.V.M.

Rt. 3, Box 881, Sylacauga, Ala.

Vouchers: R. S. Sugg and I. S. McAdory.

**GROSS, WILLIAM D.**, D.V.M.

Rt. 1, Chipley, Fla.

Vouchers: W. J. Gibbons and R. S. Sugg.

**YARBROUGH, GEORGE M.**, D.V.M.

816 1st Ave., Selma, Ala.

Vouchers: W. J. Gibbons and R. S. Sugg.

**University of California**

**ANDREWS, AARON L.**, D.V.M.

Rt. 1, Box 235C, Davis, Calif.

Vouchers: J. H. Woolsey, Jr., and D. E. Jasper.

**ANTHONY, DELBERT O.**, D.V.M.

1624 Crestview, San Bernardino, Calif.

Vouchers: J. D. Wheat and D. E. Jasper.

**BAKER, NORMAN F.**, D.V.M.

721 "K" St., Davis, Calif.

Vouchers: J. D. Wheat and D. E. Jasper.

**BOYD, HENRY P.**, D.V.M.

209 Morningsun Ave., Mill Valley, Calif.

Vouchers: H. S. Cameron and J. D. Wheat.

**BRYNER, CLINTON R.**, D.V.M.

Box 1530, Redding, Calif.

Vouchers: J. F. Christensen and J. A. Howarth

**BURGER, CHARLES H.**, D.V.M.

713 Ozone St., Ocean Park, Calif.

Vouchers: D. R. Cordy and D. E. Jasper.

**CAMPBELL, FRANK J., JR.**, D.V.M.

Box 278, Davis, Calif.

Vouchers: E. A. Rhode and J. H. Woolsey, Jr.

**CIPER, HERBERT N.**, D.V.M.

4990 Ventura Ave., Fresno, Calif.

Vouchers: H. S. Cameron and D. E. Jasper.

- COBBLE, ROY J., D.V.M.  
1237 Texas St., Fairfield, Calif.  
Vouchers: J. H. Woolsey, Jr., and D. E. Jasper.
- CRIFE, WYLAND S., D.V.M.  
R.F.D. 1, Box 131, Davis, Calif.  
Vouchers: E. A. Rhode and J. D. Wheat.
- DAVIS, ALLAN N., D.V.M.  
331 W. Ohio St., Escondido, Calif.  
Vouchers: T. J. Hage and D. E. Jasper.
- DAWSON, FRANCIS E., D.V.M.  
1905 First St., Napa, Calif.  
Vouchers: E. A. Rhode and D. E. Jasper.
- EDICK, MELVIN, D.V.M.  
Box 565, Davis, Calif.  
Vouchers: T. J. Hage and J. D. Wheat.
- FLINN, CHARLES M., D.V.M.  
Rt. 2, Box 3460, Sacramento, Calif.  
Vouchers: T. J. Hage and D. E. Jasper.
- GILHOOLY, DAVID J., JR., D.V.M.  
Vicorp, Christiansted, St. Croix, Virgin Islands.  
Vouchers: E. A. Rhode and J. H. Woolsey, Jr.
- HUDSON, DONALD D., D.V.M.  
1524 Pennsylvania Ave., West Sacramento, Calif.  
Vouchers: J. L. Gidley and F. A. Lee.
- HUGHES, WALTER F., D.V.M.  
430 D. St., Davis, Calif.  
Vouchers: J. A. Howarth and D. E. Jasper.
- HUMPHREY, MILLARD R., D.V.M.  
125 W. Fesler St., Santa Maria, Calif.  
Vouchers: E. A. Rhode and D. E. Jasper.
- KOHLER, JACK L., D.V.M.  
5825 Trask St., Oakland, Calif.  
Vouchers: J. D. Wheat and D. E. Jasper.
- KRELL, WALTER A., D.V.M.  
631 E. St., Davis, Calif.  
Vouchers: J. F. Christensen and M. H. Schaffer.
- LEWIS, WILSON B., D.V.M.  
11-8 Aggie Villa, Davis, Calif.  
Vouchers: J. D. Wheat and D. E. Jasper.
- MCGOWAN, BLAINE, JR., D.V.M.  
232 C. St., Davis, Calif.  
Vouchers: H. S. Cameron and D. E. Jasper.
- MAKINO, ERNEST M., D.V.M.  
c/o Dr. K. Koda, 404 Bridge St., Watsonville, Calif.  
Vouchers: J. W. Kendrick and T. J. Hage.
- MILANOVICH, RALPH, D.V.M.  
Box 864, Jackson, Calif.  
Vouchers: R. F. Vetter and D. E. Jasper.
- O'BRIEN, JOHN C., D.V.M.  
207 Calder Ave., Sebastopol, Calif.  
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D. Parker, E. Beecher, H. Reed.  
Second row—A. Stevenson, W. Kelly, L. Zirliax, J. Meier, G. Cholas, W. Carlson, C. John, W. R.  
Hinshaw, J. Childress, L. Faulkner, R. Barsaleau, L. Corwin.  
Third row—K. Brown, R. Smith, B. White, R. Nootz, B. Hoehner, T. Smith, E. Johnson, D. Tolley,  
C. Nelsm, P. Ray, J. Kleck.  
Fourth row—J. Ingram, S. Waterman, A. Lee, F. Kinghorn, F. Guindon, A. Weaver, B. Ham, R.  
Newell, R. Meyers, R. Nicks, A. Carnahan.  
Fifth row—W. Lamkin, H. Foland, D. McKelvie, D. Watt, R. Barker, A. Schumann, V. Pennell, A.  
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#### University of Georgia\*

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Graduating Class, 1952, School of Veterinary Medicine, University of Georgia



Top row (left to right)—F. C. Davison, D. M. Castle, D. B. Autry, and J. T. Bell, Jr.  
Second row—G. D. Redford, A. Young, E. W. Causey, W. B. Weaver, Dean T. J. Jones, C. B. King, Jr., R. E. Kimmel, C. R. Rigdon, and R. M. Kuhn.  
Third row—W. H. Rhodes, E. B. Bearden, A. C. Mincey, L. K. Taul, H. G. Woodard, M. B. Atwood, D. H. Spechler, H. B. Hearn, W. H. Rogers, J. C. Hardy, J. L. Fowler.  
Fourth row—J. R. White, J. C. Kepp, B. R. Page, Jr., C. G. Sims, G. V. McCranie, C. E. Tyner, J. C. Frazer, J. S. Ellis, J. E. Oliver, R. E. Atkinson, F. M. Jackson.  
Bottom row—R. Bell, C. M. Dotson, J. D. Eden, J. S. Reed, W. R. Bussell, C. G. Wilkes, J. E. Porter, D. Strickland, W. E. Leonpacher, G. A. Clark, and G. W. Patton.

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Second row—R. G. Bramel, C. R. Johnson, W. P. Hendren, and H. A. Loeffler.

Third row—W. G. Huber, R. F. Butzow, C. E. Lindley, R. B. Fink, E. E. Lutz, and R. E. Olsen.

Fourth row—G. F. Fehrenbacher, B. B. Knuppel, J. M. Carroll, W. Specht, E. C. Murphy, R. A. Latham, and W. M. Newton.

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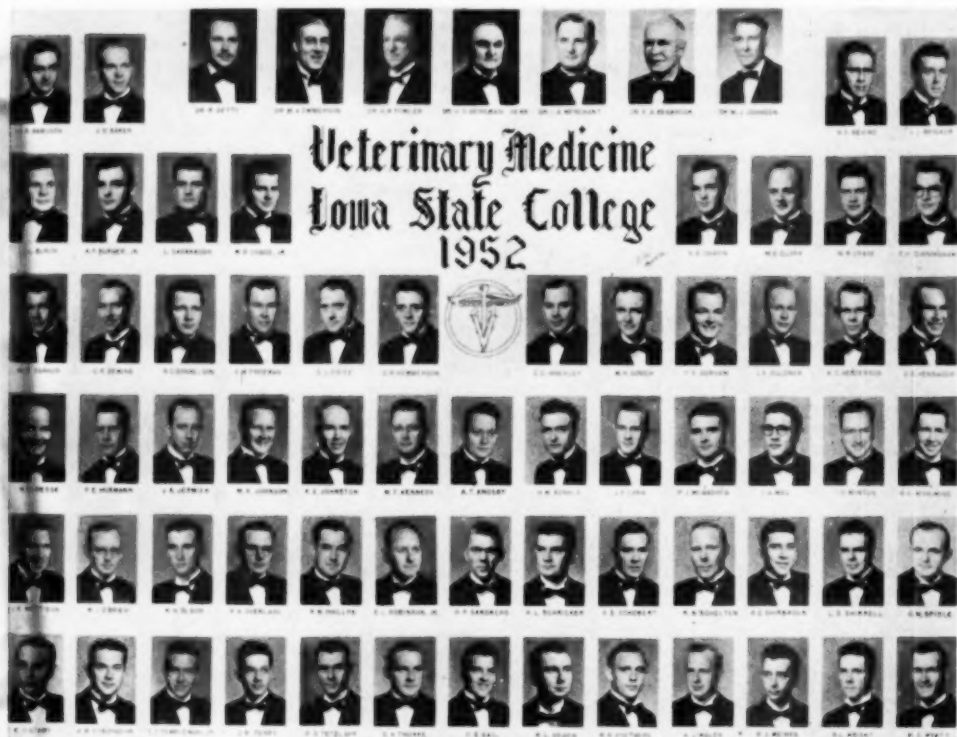
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Second row—L. L. Burch, A. F. Burger, Jr., L. Cavanaugh, W. R. Chace, Jr., N. E. Chapin, M. E. Clark, M. R. Crane, and E. H. Cunningham.

Third row—W. A. Danker, C. R. Deming, R. D. Donnelson, E. M. Freeman, D. L. Fritz, D. R. Hammerston, C. D. Hinctley, M. H. Gooch, P. E. Guldner, H. C. Henderson, and C. G. Hannager.

Fourth row—N. H. Hesse, F. E. Husmann, J. A. Jermier, M. K. Johnson, K. E. Johnston, W. T. Kennedy, A. T. Knosby, H. W. Kunkle, J. E. Lynn, P. J. McAndrew, J. A. Mau, O. Minton, and R. S. Miskimins.

Fifth row—J. R. Mattison, W. J. O'Brien, W. H. Olson, R. N. Overland, R. W. Phillips, E. L. Robinson, Jr., H. P. Sandberg, R. L. Schricker, E. E. Schobert, R. N. Scholtens, R. E. Shirkbroun, L. S. Shirrell, and C. M. Spidle.

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Absent when picture was taken—A. E. Grass and J. T. Wilson.

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### COMMENCEMENTS

**University of Minnesota.**—At the commencement exercises of the University of Minnesota on June 14, 1952, 44 candidates were presented for the D.V.M. degree. The Award of the Women's Auxiliary to the AVMA for the senior who advances the standing of the veterinary school on the campus (\$25) was awarded to Glen O. Schubert of Grand Meadow.

**A. & M. College of Texas.**—At the Commencement exercises of the A. & M. College of Texas on May 30, 1952, the following candidates were presented for the D. V. M. degree:

T. B. Angel, Jr.	C. E. Jones
W. W. Buck	E. L. Judy, Jr.
O. E. Bockhorn	Gibney Kendrick, Jr.
C. D. Bourke, Jr.	G. P. Kutch
J. M. Brown	R. G. Lewis
J. D. Carroll	W. M. Lewis
T. G. Carroll	G. B. Lindsey
O. C. Collins, Jr.	W. E. McAda
A. J. Cotton	S. N. McLeod
R. F. R. Coughlan	D. B. Martin
H. F. Dieterich, Jr.	J. O. Martin
W. F. Dossey	H. F. Michel
E. H. Eckermann	W. G. Mode
B. R. Ellsworth	J. C. Mullins
D. M. Elston	W. S. Nichols, Jr.
M. C. Frankson	A. G. Patterson, Jr.
Dexter Gabbard	V. R. Patterson
N. T. Goff	D. C. Pitts
R. P. Goldston	J. M. Prewitt
R. J. Goodwin	W. B. Ross
W. W. Green	B. J. Swope
J. L. Harper	W. M. Taegel, Jr.
J. C. Hart	R. T. Terrell
J. W. Henderson, Jr.	J. B. Tillery, Jr.
P. N. Holcomb, Jr.	O. G. Tobias
L. A. Holden, Jr.	G. S. Trevino
D. R. Hranitzky	P. R. Weyerts
P. L. Hubert	C. L. Wilson, Jr.
J. E. Humphries	H. D. Witcher
N. B. Isom	J. M. Word

## U. S. GOVERNMENT

**Veterinary Personnel Changes.**—The following changes in the force of veterinarians in the U. S. Bureau of Animal Industry are reported as of June 13, 1952.

### NEW APPOINTMENTS

Milton Altshuler, Baltimore, Md.  
Jean N. Archer, Chicago, Ill.  
Clifford W. Barber, Gainesville, Ga.  
Maurice S. Batson, Raleigh, N. Car.  
Newton H. Benjamin, Bismarck, N. Dak.  
Henry Birne, New York, N. Y.  
Thomas H. Calvin, Los Angeles, Calif.  
Benjamin F. Cox, Raleigh, N. Car.  
Arthur B. Crawford, Washington, D. C.  
Edgar H. Eckermann, Fort Worth, Texas.  
J. Frank England, Fort Dodge, Iowa.  
Emilio Esposito, New York, N. Y.  
Cosimo Ferraro, Chicago, Ill.  
Finis E. Hilton, Sacramento, Calif.  
James M. Huff, Little Rock, Ark.  
Erwin L. Jungherr, Storrs, Conn.  
Glyde A. Marsh, Columbus, Ohio.  
Irwin Moulthrop, Salisbury, Md.  
Dearold I. F. Palmer, St. Joseph, Mo.  
Ralph H. Perkins, Portland, Ore.  
Vergil B. Robinson, Athens, Ga.  
Joseph S. Sberidan, Raleigh, N. Car.  
Wilbur K. Shidler, San Francisco, Calif.  
Mal L. Tate, Lansing, Mich.  
Don C. Thompson, Oklahoma City, Okla.

Charles L. Vickers, St. Louis, Mo.  
Ernest F. Waller, Newark, Dela.  
William A. Wernet, Cleveland, Ohio.  
John H. Williams, Omaha, Neb.

### RESIGNATIONS

Eugene C. Aldrich, Sioux City, Iowa.  
Charles M. Barnes, Baton Rouge, La.  
Eugene A. Couture, Providence, R. I.  
Rene C. Gnade, Madison, Wis.  
Eugene E. Hamann, Mexico City, Mex.  
James W. Knox, Mexico City, Mex.  
Robert L. McCool, Denver, Colo.  
Warren J. Nickerson, Kerrville, Texas.  
Glen M. Tipton, Montgomery, Ala.

### RETIREMENTS

Charles W. Fisher, Indianapolis, Ind.  
George J. Lengerich, Chicago, Ill.  
Wilbur McPherson, Little Rock, Ark.  
Elbridge G. Pigman, Houston, Texas.  
Charles A. Sayre, Columbus, Ohio.  
Wilbur K. Shidler, San Francisco, Calif.  
Clarence C. Steibing, Allentown, Pa.

### DEATH

Claude M. Weber, Indianapolis, Ind.

### TRANSFERS

Robert J. Anderson, Jr., from Mexico City, Mex., to St. Paul, Minn.  
Walter C. Ferrall, from Columbus, Ohio, to Little Rock, Ark.  
Solon Gillen, from Columbus, Ohio, to Cleveland, Ohio.  
R. Frances Mitici, from South St. Paul, Minn., to Chicago, Ill.  
Ralph E. Nelson, from Kansas City, Kan., to Fort Dodge, Iowa.  
Francis G. Vickers, from Columbia, S. Car., to Fort Worth, Texas.  
Robert S. Zenor, from Mexico City, Mex., to Sioux City, Iowa.

### CANCELLATION (Transfer)

James W. Knox, from Mexico City, Mex., to Fort Dodge, Iowa.

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**Service Awards Conferred.**—The United States Department of Agriculture on May 15, 1952, conferred 72 superior service awards to members of the department force. Among them was Dr. Otto W. Seher (COL '13), BAI, Chicago,



Dr. Otto W. Seher receiving Service Award.

Ill. for his inspirational leadership in building a highly efficient meat inspection organization at the Chicago meat inspection station, resulting in improved public service.

Dr. Fred C. Driver (IND '10), St. Paul, Minn., was also given an award for leadership and initiative displayed in pioneering the use of the milk ring test for brucellosis in the United States.

## AMONG THE STATES AND PROVINCES

### California

**California Graduates First Veterinarians Since 1900.**—At the commencement exercises of the University of California on June 18, 1952, 42 candidates were presented for the D.V.M. degree. This is the first time since the veterinary school closed in 1900 that the University has awarded degrees in veterinary medicine. Dr. George H. Hart is dean of the new School of Veterinary Medicine, located on the Davis campus, which opened in 1948. Of the 42 graduates, 41 are veterans.

s/E. E. JONES, *Resident Secretary*.

### Connecticut

**State Association.**—The annual meeting of the Connecticut Veterinary Medical Association was held in the Hotel Bond in Hartford on Feb. 6, 1952, with approximately 60 members in attendance. At the business meeting, the following officers were elected: Drs. William Leggett, Westport, president; Walter B. Holcomb, Danbury, first vice-president; Vincent Peppe, Canaan, second vice-president; and Ernest H. Patchen, secretary-treasurer. Members of the executive board elected at this meeting are: Drs. Richard T. Gilyard, Waterbury, chairman; Ernest Patchen, Milford; J. P. McIntosh, Kensington; Jean V. Smith, South Norwalk; William Leggett, Westport; and Walter B. Holcomb, Danbury. The following were elected to the board of censors: Drs. Howard C. Raven, Bridgeport; Russell Church, Winsted; George Ludins, Hartford; Raymond Larson, Newington; and Chester Guthrie, Wilton.

A literary program was held in the afternoon with Dr. Richard A. Huebner of Philadelphia presenting a motion picture on the clinical use of hyaluronidase.

The spring quarterly meeting of the Association was held on May 7 at the Colonial House, Hamden, with 55 members present. Dr. Ernest S. Tierkel of the Communicable Disease Center of Atlanta, Ga., spoke on "Rabies Control and Its Various Problems." Following this address, Dr. Lincoln Easterbrooks, extension veterinarian at the University of Connecticut, spoke on "The Clinical Aspects of Vibriosis."

s/NIEL W. PIEPER, *Resident Secretary*.

### Georgia

**Dr. Steele To Serve on WHO Panel.**—Dr. James H. Steele (MSC '41), Atlanta, has been appointed to serve for five years on the World Health Organization's expert advisory panel on zoonoses, which is concerned with the investigation and control of diseases of animals transmissible to man.

Dr. Steele is chief of veterinary public health for the Communicable Disease Center, Public Health Service, Federal Security Agency. He received his M.P.H. degree from the Harvard School of Public Health in 1942 and has been chief veterinary public health officer of the Public Health Service since 1950.

### Illinois

**Southeastern Association.**—On May 27, the Southeastern Illinois Veterinary Medical Association met in Paris to hear Dr. J. L. Kixmiller of Allied Laboratories, Indianapolis, discuss the benefits of swivax to immunize swine against hog cholera. A lively discussion followed his presentation.

s/A. G. MISENER, *Resident Secretary*.

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### Dr. Butzow Joins Staff at Veterinary College.

—Dr. Robert F. Butzow (ILL '52) has been appointed instructor in the Department of Veterinary Clinical Medicine at the University of Illinois College of Veterinary Medicine, Urbana. Dr. Butzow is a veteran of World War II. Since 1946, he has been employed by the College of Veterinary Medicine and the U. S. Department of Agriculture on a part time basis while attending the University of Illinois.

### Indiana

**Indiana-Illinois Association.**—The Indiana-Illinois Veterinary Medical Association met in Deming Park, Terre Haute, on June 13. After a fish fry, an annual affair, Col. I. O. Gladish (Ret.), Petersburg, and Dr. R. C. Klussendorf, of Commercial Solvents Co., addressed the group.

The following officers will represent the Association for the year: Drs. H. R. Basinger, Wheatland, Ind., president; Odell Archer, Terre Haute, Ind., vice-president; and H. F. Page, Washington, Ind., secretary-treasurer.

s/J. L. KIXMILLER, *Resident Secretary*.

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**Sixth District Association.**—The Sixth District (Ind.) Veterinary Medical Association met at the Old Trails Inn, Greencastle, on June 4 to hear Dr. L. M. Hutchings, Purdue University, and Joe Green, state veterinarian, discuss the State Livestock Sanitary Board's actions during the outbreak of anthrax, and the seriousness of swine rhinitis.

Since the meeting was held on President



G. M. Blubaugh's birthday, the luncheon featured a birthday cake in his honor.

S/J. L. KIXMILLER, *Resident Secretary*.

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**Northeastern Association.**—The guest speakers at the May 13 meeting of the Northeastern Indiana Veterinary Medical Association were **Drs. A. Henry Craige**, Pitman-Moore Co., Indianapolis, and **G. W. Gillie**, Fort Wayne.

S/J. L. KIXMILLER, *Resident Secretary*.

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**Northwestern Association.**—At the May 29 meeting of the Northwestern Indiana Veterinary Medical Association in Monticello, State Veterinarian **Joe Green** spoke on problems facing the state veterinary department today and asked for the cooperation of practitioners in testing cattle for tuberculosis and brucellosis. These problems, as well as others that come under the direction of the state veterinarian, were the subject of a lively discussion among those present.

S/J. L. KIXMILLER, *Resident Secretary*.

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**Michiana Clinic.**—One hundred and thirteen veterinarians and five student veterinarians from Michigan, Indiana, and Illinois attended the biannual clinic of the Michiana Veterinary Medical Association on May 22 at South Bend. (For a list of the speakers and demonstrators, see the July JOURNAL, p. 69.)

S/R. W. WORLEY, *General Chairman*.

#### Iowa

**Dr. Miller Honored.**—Dr. Albert Miller (ISC '24), chief of the Federal Meat Inspection Service of the U. S. Department of Agriculture, Washington, D. C., was honored at Alumni Day activities at Iowa State College on June 14, 1952, when he received the I.S.C. Alumni Merit Award. This award is bestowed upon outstanding alumni of the College for meritorious service in their fields and their contributions to their fellowmen.

From 1939 to 1944, Dr. Miller served as head of the label section of the Federal Meat Inspection Service. In 1944, he became assistant chief, and in 1945 chief, of the service.

He is author of a book, "Meat Hygiene," and received the award of superior service from the USDA in 1949. He is also a member of the AVMA, the Association of Food and Drug Officials of the United States, and of the U. S. Livestock Sanitary Association.

S/C. H. PALS.

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**Dr. Shore Dies.**—Dr. Howard J. Shore, vice-president and laboratory director of Fort Dodge Laboratories, Fort Dodge, Iowa, died June 19, 1952, of coronary thrombosis at the age of 70. Born and reared at Winston-Salem, N. Car., he studied at Dr. Buckingham's private school for

veterinarians, Washington, D. C., and received his veterinary medical degree from George Washington University in 1911.

As a lay member of the biochemic division, Bureau of Animal Industry, he assisted in the



Dr. Howard J. Shore

first experiments in vaccinating swine with hog cholera virus and antiserum in Story County, Iowa, in 1907. He helped draft the virus-serum-toxin act of 1913 and was put in charge of the virus-serum control division of the Bureau of Animal Industry in 1917.

In 1919, Dr. Shore became director of the biological laboratory of the Fort Dodge Serum Company, a post he had held thirty-three years. During that time he served the profession with distinction in many capacities. He was a member of the AVMA Committee on Veterinary Biological Products from 1926 to 1936 and served as chairman three of those years. He was a member of the U.S. Livestock Sanitary Association Committee on Transmissible Diseases of Swine from 1932 to 1937. He was the author of an article on Swine erysipelas in the JOURNAL in October 1941.

Dr. Shore was held in high esteem by all who knew him. He is survived by his widow, a daughter, and a granddaughter.

#### Minnesota

**Southern Society.**—On May 14, the Southern Minnesota Veterinary Medical Society met at the Hormel Sales Cabin for its annual spring meeting. The motion picture "Bowel Oedema in Pigs," from the Research Division, Stormont, Belfast, Northern Ireland, was shown, with comments by **Dr. W. J. Hadlow**; and **Dr. John D. Ray**, Omaha, Neb., discussed "Bovine Leptospirosis."

Officers elected at this meeting are Drs. W. H. Calhoun, Riceville, Iowa, president; A. B. Magnusson, Blooming Prairie, Iowa, vice-president; G. A. Young, Jr., Austin, secretary-treas-

urer; and J. L. Cavanaugh, Plainview, and R. B. Helming, Cresco, Iowa, board members.

s/G. A. YOUNG, JR., Secretary.

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**Dr. Pomeroy Honored.**—Dr. B. S. Pomeroy (ISC '33), head of the section on bacteriology at the School of Veterinary Medicine, University of Minnesota, has received the Iowa State College alumni service award. The award, consisting of an Iowa State alumni recognition key, is made on the basis of contributions to community life and Iowa State College alumni activities.

In 1950, Dr. Pomeroy received a \$500 research award from the National Turkey Federation for outstanding service to the turkey industry through constructive research. He is secretary-treasurer of both the Minnesota State Veterinary Medical Society and the Twin City Veterinary Medical Society.

#### Missouri

**Dr. Carver Accepts Appointment in Nicaragua.**—Dr. Hubert E. Carver (TEX '41), Higginsville, Mo., has accepted an appointment with the Office of Foreign Agricultural Relations under the technical assistance program. He recently left for Managua, Nicaragua, where he is associated with the experiment station of the Servicio Tecnico at La Calera. Prior to his appointment, Dr. Carver was with the BAI in Mexico on the foot-and-mouth disease control program.

#### New Jersey

**AVMA Represented at Rutgers Ceremonies.**—Dr. James R. Porteus, Trenton, represented the AVMA at the inauguration of Lewis Webster Jones (Ph.D.; LL.D.) as president of

Rutgers University, the state university of New Jersey, on May 8, 1952, at New Brunswick. Dr. Jones is the fifteenth president of the University, which was founded in 1766.

#### New York

**New York City Association.**—The regular meeting of the Veterinary Medical Association of New York City, Inc., was held June 4, at the New York Academy of Sciences. Dr. Robert L. Anderes, editor, *Veterinary Medicine*, Kansas City, Mo., presented a paper on "The Legal Responsibilities of the Veterinarian." A motion picture "Zoo Babies" was presented through the courtesy of the New York Zoological Society. The following were introduced as new members: Drs. A. Barton, Forest Hills; Merrill Goodman, Washingtonville; L. R. Karmin, Bellerose; V. E. McKenna, New York City; John W. Rich, Summit, N. J.; C. F. Starke, W. Orange, N. J.; and Manuel Zimmerman, New York City.

s/C. R. SCHROEDER, Secretary.

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**New York State Veterinary College Honor Day Exercises.**—Dr. M. G. Fincher presided at the annual Honor Day exercises at the New York State Veterinary College, Cornell University, on May 15, 1952. Dr. Deane W. Malott, president of Cornell University, presented the following awards:

The Borden Veterinary Scholarship Award to the member of the fourth-year class who attained the highest scholastic record in all veterinary studies for the first three years (\$300): Marion E. Schott.

The Horace K. White Prizes for the students whose academic records for the entire veterinary course are highest: Edwin J. Hoff, Jr., first, \$75; Marion E. Schott, second, \$25; Paul

#### New York State Veterinary College Award Winners, 1952



Front row (left to right)—Edwin E. Blaisdell, John B. McCarthy, Edwin J. Hoff, Jr., Dean W. A. Hagen, Marion Schott Georgi, President Dean W. Malott, Dr. Elmer S. Phillips, Dr. M. G. Fincher, Kenneth W. Chamberlain, Jr., Charles L. Myers, and Joseph E. Croshaw, Jr.

Back row—Robert K. Milkey, George E. Maurice, James R. Rooney, Edward Grano, Jr., Wendell K. Loomis, Paul H. Pelham, Albert R. Greenwood, Everett W. Vreeland, Robert D. Trowbridge, Edward P. Winnick, Robert S. Martin, James A. Gourlay, Bertram Lewis, and John W. McVicar.

H. Pelham, Robert K. Milkey, and John W. McVicar, honorable mention.

The Jane Miller Prizes for the best work in veterinary physiology: George E. Maurice, first, \$25; Bertram Lewis, second, \$15; Helen V. Coates, honorable mention.

The Charles Gross Bondy Prizes for the best work in the courses in practical medicine and surgery of small animals: Kenneth W. Chamberlain, Jr., first, \$25; Robert S. Martin, second, \$15; Edwin E. Blaisdell, John B. McCarthy, and Marion E. Schott, honorable mention.

The Anne Besse Prize for the best work in medicine and clinical diagnosis: \$40 divided equally between John W. McVicar and Everett W. Vreeland; Albert E. Grass and Edwin J. Hoff, honorable mention.

The James Gordon Bennett Prize for the students who show the greatest humaneness in handling animals, with special reference to the use of anesthesia: James R. Rooney, \$40; John W. McVicar and Marion E. Schott, honorable mention.

The Mary Louise Moore Prize for the best work in bacteriology: Marion E. Schott, first, \$25; Paul H. Pelham, second, \$15.

The Poultry Disease Essay Prize for the best essay on a topic in the field of poultry diseases: Charles L. Myers, \$50, for his essay on "X-Disease in Chickens."

The Machado Prize to the member of the fourth-year class who has shown the greatest aptitude in the study of diseases of poultry in the classroom and laboratory: Edwin E. Blaisdell, \$50.

The Alpha Psi Prize to the member of the graduating class who has shown by his scholarship, character, and breadth of interest that he is best equipped to advance the standards of veterinary science: Edwin J. Hoff, Jr., \$50 U. S. savings bond.

The New York State Veterinary Medical Society Prizes for the best case reports presented for publication in *Veterinary News*, the organ of the Society. Members of the fourth-year class are eligible to compete: Robert D. Trowbridge, first, \$25; Robert K. Milkey, second, \$15; James A. Gourlay, third, \$10; Edward Grano, Jr., honorable mention.

The Prize of the Women's Auxiliary to the AVMA to the member of the fourth-year class who is deemed to have best advanced the standing of the veterinary college on the campus by special contributions of an extra-curricular nature: Edward P. Winnick, \$25.

The General Ralph Hospital Award to the honor student in the graduating class: Edwin J. Hoff, Jr., \$25.

The Sons of the American Revolution Award for leadership, soldierly bearing, excellence in the theoretical and practical work in the advanced veterinary R.O.T.C. course: Joseph E. Croshaw, a gold medal.

**ROTC Students Honored.**—Dr. John L. McAuliff, president of the New York State Veterinary Medical Society, presented the Society's annual awards for outstanding achievement to



Left to right—Dr. John L. McAuliff, president of New York State Veterinary Medical Society; Cadets Albert R. Greenwood and Wendell K. Loomis; Col. George S. Smith, professor of military science and tactics at Cornell; and Col. William E. Jennings, V.C., officer in charge of the veterinary ROTC unit at Cornell.

Cadets Albert R. Greenwood and Wendell K. Loomis, first- and second-ranking seniors, respectively, of this year's Veterinary Reserve Officers Training Corps unit at the New York State Veterinary College, Cornell University.

The presentation was made during a review of 5,000 Army, Navy, and Air Force ROTC cadets in Barton Hall at Cornell. Cadets Greenwood and Loomis were commissioned second lieutenants in the Army Veterinary Corps Reserve on June 9.

#### North Carolina

**State Association.**—The fifty-first annual meeting of the North Carolina State Veterinary Medical Association was held June 16-17 at Atlantic Beach, Morehead City, N. Car.

The following speakers presented papers on the scientific session: **Drs. W. O. Slappey**, Fayetteville; **Leon F. Whitney**, Orange, Conn.; **Ed Chambers**, Rossville, Ga.; **J. I. Neal**, Southern Pines; **M. G. Edwards**, Wilkesboro; **J. I. Cornwell**, Asheville; **C. J. Lange**, Greensboro; and **J. W. McKee**, Hickory.

The new officers of the Association are **Drs. J. W. McKee**, Hickory, president; **W. O. Slappey**, Fayetteville, president-elect; **W. D. Collins**, Winston Salem, vice-president; and **C. W. Young**, Mocksville.

s/CLYDE W. YOUNG, Secretary.

#### North Dakota

**Dr. Van Es Honored.**—The highlight of the forty-seventh annual meeting of the North Dakota Veterinary Medical Association, June

8-10, 1952, was the dedication of the Van Es Laboratory on the North Dakota Agricultural College campus, in which convention sessions were held. An elaborate dedication booklet,



Dr. L. Van Es

honoring Dr. Leunis Van Es, was circulated among veterinarians and Dr. Van Es was honored at ceremonies during which several officials and old-timers paid tribute to the alert, esteemed man of 84 years whose impact on the profession in North Dakota for fifteen years (1903-1918), as head of the agricultural college's Department of Veterinary Science and as state veterinarian, resulted in the establishment of a livestock sanitary board and training of young men dedicated to the ideals of their profession.

Dr. Van Es, born in Holland and educated at Amsterdam, took further training at Toronto and at the University of Alabama. He came to North Dakota in 1903; in 1918, he went to the

University of Nebraska, Lincoln, as chairman of the Department on Animal Pathology.

The building on the college campus at Fargo, rededicated in his honor, was built at his request when he was on the North Dakota faculty, and has recently been completely renovated and redecored, complete with a bronze plaque which reads (in part):

In honor of Dr. Leunis Van Es . . . in recognition of his sterling character, achievements in research and teaching, and for ideals instilled in students and veterinarians. . . .

Dr. Van Es spoke briefly, recalling the old horse-and-buggy days. "The first thing I did, coming from Alabama to North Dakota, was to buy a fur cap and buffalo coat," he reminisced, then went on to tell about the livestock disease control campaigns of an early day—glanders, bovine tuberculosis, contagious abortion, "swamp fever" in horses, and others.

s/D. F. EVELETH, Secretary.

**State Association.**—The forty-seventh annual meeting of the North Dakota Veterinary Medical Association was held at the North Dakota Agricultural College Department of Veterinary Science, Fargo, on June 8-10, 1952.



Officers of the North Dakota Association (left to right)—Drs. J. C. Jirikowic; L. Van Es, honored guest; J. T. E. Dinwoodie; and D. F. Eveleth.

Dr. A. F. Ranney, U. S. BAI, Bismarck, conducted a panel discussion on foot-and-mouth disease. With the recent outbreak of the disease in Canada, this attracted the most lively discussion of the convention. Dr. Howard Johnson, in charge of animal disease research at the USDA station in Beltsville, Md., traced the history of foot-and-mouth disease research and the preventative activity in this country from the beginning of the century. He staunchly reiterated his belief that U. S. livestock men and veterinarians prefer that we "live without disease" instead of tolerating enzootic situations such as exist in some areas of Europe, Asia, and South America.

Among other convention speakers were Drs. L. M. Roderick, Kansas State College, Manhattan; Frank Thorp, Jr., Michigan State College, East Lansing; A. H. Quin, Jen-Sal Laboratories, Kansas City, Mo.; G. S. Harshfield, South Dakota State College, Brookings; H. L.



The Van Es Laboratory, North Dakota Agricultural College, Fargo.

**Foust**, Iowa State College, Ames; **D. E. Trump**, Owatonna, Minn.; **T. O. Brandenburg**, North Dakota's state veterinarian; and **A. E. Benbrook**, Iowa State College, Ames. **Dr. W. L. Boyd**, director of the University of Minnesota School of Veterinary Medicine and president-elect of the AVMA, was the banquet speaker. He discussed research activity in animal diseases and livestock nutrition.

Officers elected to serve the Association are **Drs. J. C. Jirikowic**, Bottineau, president; **J. T. E. Dinwoodie**, Devils Lake, vice-president; and **D. F. Eveleth**, Fargo, secretary-treasurer.

s/D. F. EVELETH, Secretary.

FREDERIK LOW, Resident Secretary.

## Ohio

**Conference for Veterinarians.**—The twenty-first annual conference for veterinarians, sponsored by the College of Veterinary Medicine, Ohio State University, was held May 7-8, 1952, with 248 veterinarians in attendance.

The following guest speakers participated in the program: **Drs. W. A. Aitken**, editor-in-chief of AVMA publications, Chicago; **C. L. Blakely**, chief of the surgical staff, Angell Memorial Animal Hospital, Boston; **H. G. Geyer**, chief, Division of Animal Industry, Ohio Department of Agriculture, Columbus; **H. E. Goldstein**, Division of Animal Industry, Ohio Department of Agriculture; **L. E. Green**, Akron; **R. F. Langham**, Michigan State College, East Lansing; **J. T. McGrath**, University of Pennsylvania School of Veterinary Medicine, Philadelphia; **P. A. Soldner**, Springfield; and **V. D. Stauffer**, veterinary consultant for the Institute of Inter-American Affairs, Arvada, Colo.

Members of the faculty who appeared on the program were **Drs. Harold Amstutz**, **E. H. Bohl**, **J. T. Burriess**, **E. J. Catcott**, **C. R. Cole**, **C. D. Diesem**, **F. L. Docton**, **B. H. Edgington**, **L. C. Ferguson**, **J. H. Helwig**, **L. E. Johnson**, **D. O. Jones**, **F. J. Kingma**, **F. R. Koutz**, **H. M. Mauger**, **J. C. Ramage**, **Lt. Col. C. E. Robinson**, **V.C., U.S.A.F.**, **R. L. Rudy**, **C. R. Smith**, **V. L. Sharp**, and **W. G. Venzke**.

s/CHARLES DIESEM, Resident Secretary.

**Summit County Association.**—The Summit County Veterinary Medical Association met at the Mayflower Hotel in Akron on May 27, 1952, with 40 members and guests in attendance. **Dr. F. J. Kingma**, Ohio State University, Columbus, discussed "Prehension in Animals" and "Reproduction in the Dog."

Officers of this Association are **Drs. H. P. Noonan**, Akron, president; **R. R. Sigler**, Akron, vice-president; and **M. L. Scott**, Akron, secretary-treasurer.

s/D. O. JONES.

**Cuyahoga County Association.**—At the May 14 meeting of the Cuyahoga County Veterinary

Medical Association, **Dr. Grieser** of Akron spoke on the use of oxygen in the veterinary hospital, and **Dr. Friedlander** (M.D.) discussed the utilization of dogs in cancer study at the Katz-Saunders Laboratory in Cleveland. Association officers are **Drs. R. Larcey**, North Olmstead, president; **R. Grundish**, South Euclid, president-elect; **J. Danis**, Cleveland, secretary; and **A. Arthur**, treasurer.

s/JOHN E. DANIS, Secretary.

## Oklahoma

**Tulsa Association.**—The following officers will serve the Tulsa Veterinary Medical Association for the coming year: **Drs. T. B. Ratliff**, president; **R. S. Todd**, vice-president; and **Glen Harbert**, secretary-treasurer.

s/GLEN HARBERT, Secretary.

## Pennsylvania

**Penn-Allegheny Association.**—The Penn-Allegheny Veterinary Medical Association met in Ebensburg on May 22. **Dr. Harry W. Herriott** of Hershey was the guest speaker. His topic was "Swine Problems and Diseases."

s/J. E. SHOOK, Secretary.

**Bucks-Montgomery Association.**—At the June 11 meeting of the Bucks-Montgomery Veterinary Medical Association in the Doylestown Moose Hall, **Dr. C. E. E. Bunn**, staff veterinarian of Sharp and Dohme, presented a paper on "Antibiotics: Synergism and Antagonism" (with illustrations).

s/J. P. MAUGEL, President.

**Western Association.**—On May 14, **Dr. H. A. Milo**, director of the state BAI, was guest speaker at a meeting of the Western Pennsylvania Veterinary Medical Association.

s/K. L. BOLLERS, Secretary.

**Conestoga Club.**—The annual shad dinner of the Conestoga Veterinary Club was held at the Stock Yards Inn, Lancaster, on May 23, 1952.

s/WILSON L. MILLER, Secretary.

## Texas

**Veterinarians Speak at National Hereford Congress.**—Two veterinarians participated in the program of the third annual National Hereford Congress in Fort Worth on May 12-13, 1952. **Dr. I. B. Nye**, Fort Worth, discussed general health, disease prevention, and infectious diseases of cattle; and **Dr. G. T. Easley**, Turner Ranch, Sulphur, Okla., spoke on sterility and artificial insemination problems.

Among the many veterinarians who attended the congress were **Drs. Raymond Hander**, Childress; **R. W. Winters**, Weatherford; **Ed Maddox**, Weatherford; **Alan Woods**, Denton; and **G. E. Grimes**, Fort Worth.

s/A. H. QUIN.

**Colonel Jennings To Head Department in Field Service School.**—Colonel William E. Jennings (COR '31), has been appointed head of the Department of Veterinary Science at the



Colonel William E. Jennings

Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston. In 1948, he established the Veterinary Reserve Officers Training Corps Unit at the New York State Veterinary College and since then has instructed all students in the Army R.O.T.C. in military hygiene and first aid.

Colonel Jennings served overseas for four years during World War II and received several decorations, including the Bronze Star Medal, Legion of Merit, and *Yun Hui* (Chinese cloud and banner). He is an active member of numerous professional societies and committees including the Association of Military Surgeons and the Council on Education of the AVMA.

#### Vermont

**Lieutenant Prior To Command Special Infantry Company.**—Lt. Roger W. Prior (MON '50), Burlington, is commanding officer of the First Special Infantry Company, U. S. Marine Corps Reserve, of Burlington, which was activated recently. Lieutenant Prior served overseas with the famed First Marine Division in the campaigns on Pelelieu and Okinawa during World War II, receiving the Presidential Unit Citation for both campaigns, the Asiatic-Pacific Theater ribbon with two stars, the American Defense Ribbon, and the China Service Medal. After receiving his D.V.M. degree in 1950, he practiced in Lewiston, Maine, for a short time and then returned to South Burlington where

he operates the Burlington Animal Hospital in partnership with Dr. Richard Fournier (MON '50).—*Burlington Free Press*.

s/W. D. BOLTON, *Secretary*

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**"Radio-Active" Veterinarians.**—One of the limitations of the veterinary practitioner of the first part of the century was the horse and buggy as a means of transportation. The number of calls a veterinarian could make each day was in direct relation to the number of miles a horse could travel. Then came the automobile making speedy, efficient veterinary service available to practically all farmers and livestock men in the country. Today, some veterinarians have even improved on the quick service made possible by the "horseless carriage." Among these are Drs. Raymond C. Goss and Jack Denton of Middlebury who have installed two-way radios in their cars. Their wives relay calls to them as they come in, which permits the doctors to make several calls in one vicinity or to an adjoining neighborhood without first returning to headquarters. This saves miles and time for the veterinarians and provides rapid service for their clients.

s/W. D. BOLTON, *Secretary*

#### Wisconsin

**Northeastern Association.**—The Northeastern Wisconsin Veterinary Medical Association held its spring meeting in the Hotel Carmen, Sturgeon Bay, on May 14, 1952.

The program consisted of a discussion on civil defense, with slides and motion pictures of rabies, anthrax, hyperkeratosis, and foot-and-mouth disease shown by Drs. S. H. McNutt and H. J. O'Connell, of Madison.

s/WILLIAM MADSON, *Secretary*

## FOREIGN NEWS

### Veterinarians from Foreign Lands Visit the AVMA

On May 23, a group of 14 foreign veterinarians under the leadership of Mr. F. W. Merrill, district extension supervisor, Iowa State College, visited the AVMA office under the sponsorship of the Mutual Security Agency and the United States Department of Agriculture as part of their technical collaboration program. They were given instruction on the various activities of the Association by members of the staff. This group included the following:

From Austria: Drs. Karl Diernhofer, Richard Gaier, and Wilhelm Grausgruber.

From Iraq: Drs. Karani Dogramachi and Rashad Kattan.

From Italy: Drs. Guiseppe Boldrini and Livio Leali.



From Yugoslavia: Drs. Ranko Calic, Angel Tomor Dzekov, Stevan George Dobrenov, Kromoslav Filipcic, Marigan Pavsic, Albin Sedaj, and Alija Talic.

These men are all graduate veterinarians from schools in Vienna, Belgrade, Zagreb, Milan, Bologna, and Perugia.

In the United States since April 2, they spent ten days in Washington and vicinity and one month at Iowa State College, taking a short course on livestock disease control. They were on their way to Columbus, Ohio, to visit the veterinary and agricultural colleges at the Ohio State University for about a week before returning to their native lands. Two interpreters accompanied the group.

Other foreign veterinarians who have recently visited the AVMA office are: Dr. Joseph Fortner of the Robert Koch Institute, Berlin, Germany; Dr. Werner Steck of the University of Berne, Switzerland; Dr. Stephen Hunt of Sydney, Australia; Dr. Piya Rangsit of Bangkok, Thailand; Dr. C. Gomutputra of Thailand, now a graduate student at Michigan State College; Dr. Chalerm Prommas and Dr. Virach Maka Duang Keo, also of Bangkok, Thailand; and Dr. Leif Sorum of Oslo, Norway.

#### Germany

**Army Operates Pet Hospitals.**—The American army is operating dog and cat hospitals in

Berlin, Frankfurt, Heidelberg, and Munich for the pets of servicemen and U.S. civilians working for the army and state departments, according to newspaper dispatches from abroad. Nominal fees are charged the Americans, most of whose families have a dog or cat or two, and pets being popular also in the military barracks. The pet hospitals are staffed by army veterinarians and trained German assistants.

#### Iraq

**Dr. Manley Receives Degree from University of Zurich.**—Dr. Frank H. Manley (LIV '22), advisor in veterinary bacteriology to the Iraq government on behalf of the Food and Agriculture Organization of the United Nations, has received the D.V.M. degree from the University of Zurich. The degree was awarded in part for original work on the genus *Proteus*. Dr. Manley is on leave from the School of Veterinary Medicine, Alabama Polytechnic Institute, Auburn.

#### Philippine Islands

**Philippine Association.**—The forty-fifth annual convention of the Philippine Veterinary Medical Association was held April 24-25, 1952, in the Assembly Hall, Bureau of Animal Industry, Pandacan, Manila. The following



Officers of the Southwestern Wisconsin Veterinary Medical Association (left to right)—Drs. G. C. Schofield, treasurer; D. M. Murphy, director; R. B. Hippenbecker, program chairman; C. W. Burch, director; D. M. Delaney, secretary; J. W. Wilson, president; Sam Elmer, director; M. L. Kaster, vice-president; J. V. Kuenster, second vice-president; and F. W. Baker, director of the State Association.

speakers presented papers at the scientific sessions: **Drs. Juan Generoso, Gavino San Gabriel, Anacleto B. Coronel, Demetrio Fernandez, Zacarias de Jesus, Nicolas S. Sevilla, Pedro G. Refuerzo, Felicidad Albis, Felicisimo San Agustin, Ramon Acevedo, Daniel Bolong, Antonio Murriel, Amado E. Baladad, Valente Villegas, Carlos X. Burgos, Mariano Mondonedo, Rufino B. Gapuz, and Mariano Montemayor.**

Other program speakers were **Drs. Alfonso Lecaros**, assistant chief, extension Division, BAI, and **Dr. Victor Buencamino**, father of the veterinary profession in the Philippine Islands.

There are approximately 200 veterinarians in the Philippines nearly all of whom are members of the Association. The ratio of veterinarians to the human population in the islands is 1:100,000.

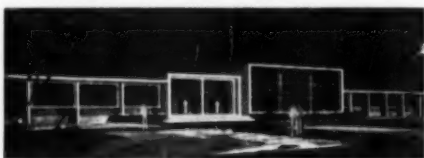
The officers elected for the 1952-1953 year are **Drs. Manuel D. Sumulong**, president; **Pedro S. Sales**, vice-president; and **José A. Solis**, secretary-treasurer.

s/JOSÉ B. ARANEZ,

*Foreign Corresponding Secretary.*

#### Proposed Permanent Veterinary Building.—

The accompanying photograph shows the architect's plan of the building of the College of Veterinary Medicine, University of the Philippines, Quezon City, to be constructed soon through the assistance of the Mutual Security Administration and Philippine Council for United States aid at a cost of \$325,000. The drawing shows the facade of the building, behind which will be two wings for the other departments. A well-equipped veterinary hospital, which will be a separate unit, will be connected to the main building by a covered passageway. The building will look like a letter



Architect's plan of new building for the College of Veterinary Medicine, University of the Philippines.

"E" from an aerial view. First-class equipment and instruments will also be provided by the same organizations.

s/JOSÉ B. ARANEZ, *Foreign Corresponding Secretary.*

### STATE BOARD EXAMINATIONS

**West Virginia**—The West Virginia Veterinary Board will convene at the Stonewall Jackson Hotel, Clarksburg, W. Va., on Aug. 18, 1952, at 9:00 a.m., for the purpose of giving examinations to those desiring to register to prac-

tice veterinary medicine in the State of West Virginia. For further particulars, write to Dr. W. E. Trussell, secretary, West Virginia Veterinary Board, Charles Town, W. Va.

### VETERINARY MILITARY SERVICE

**Veterinary Officers Complete Advanced Course.**—Fifteen officers of the Army Veter-



General McCallam awards the Hoskins Medal to Capt. Lorenz Beuschel, V.C., of Kansas City, Kan., as the outstanding veterinary student for the year at the Army Medical Service Graduate School in Washington, D. C. The Hoskins Medal is donated by the AVMA. First given in 1925 and for several years thereafter, it was reestablished this year.

inary Corps completed the advanced course in veterinary medicine at the Army Medical Service Graduate School in Washington, D. C., on June 6, 1952. This is the first time since the beginning of World War II that this professional course has been presented.

The course is designed to familiarize the enrolled officers with the latest developments in veterinary medicine and the basic medical sciences. In scope and caliber, it is unequalled anywhere in the world. Almost 100 leading scientists, educators, and practicing veterinarians, both military and civilian, served as instructors, frequently presenting material so new that it has not yet been incorporated in any textbook. Among the instructors were such outstanding figures as:

**Drs. B. T. Simms**, chief of the Bureau of Animal Industry, U. S. Department of Agriculture; **W. A. Hagan**, dean of the New York State Veterinary College at Cornell; **Justin Andrews**, director of the U. S. Public Health Service's Communicable Disease Center; **K. F. Meyer**, director of the Hooper Foundation at the University of California Medical Center; **Peter Olitsky**, member of the Rockefeller Institute for Medical Research; **Cyril Comar**, re-

search coordinator of the agricultural experiment station at the University of Tennessee; William Hammon, head of the Department of Epidemiology and Microbiology at the Graduate School of Public Health, University of Pittsburgh; Charles Cunningham, of the Bacteriology Department, School of Veterinary Medicine, Michigan State College.

Lieutenant Colonel Robert Yager, V.C., is director of the Veterinary Division, AMSGS; Major William Gochenour, V.C., assistant director of the Veterinary Division, Army Medical Service Graduate School, was director of the course.

The seventeen-week course began in February. Included were such subjects as the veterinary aspects of biological and chemical warfare; the effects of nuclear energy on man, food, and animals; bacteriology; virology; pathology; immunology; parasitology and protozoology; nutrition and deficiency diseases; and food control.

The Army Veterinary School was established by the War Department in July, 1920, at the General Supply Depot in Chicago. It was listed as one of the War Department special service schools in 1922, and in 1923 it was transferred to Washington, D. C., and made a constituent part of the Army Medical Center there.

## BIRTHS

Dr. (COL '51) and Mrs. Carl E. E. Bunn, Plymouth Valley, Norristown, Pa., announce the birth of a son, Paul Eric, on June 13, 1952.

Dr. (MSC '41) and Mrs. James H. Steele, Atlanta, Ga., announce the birth of a son, David Arthur John, on June 3, 1952.

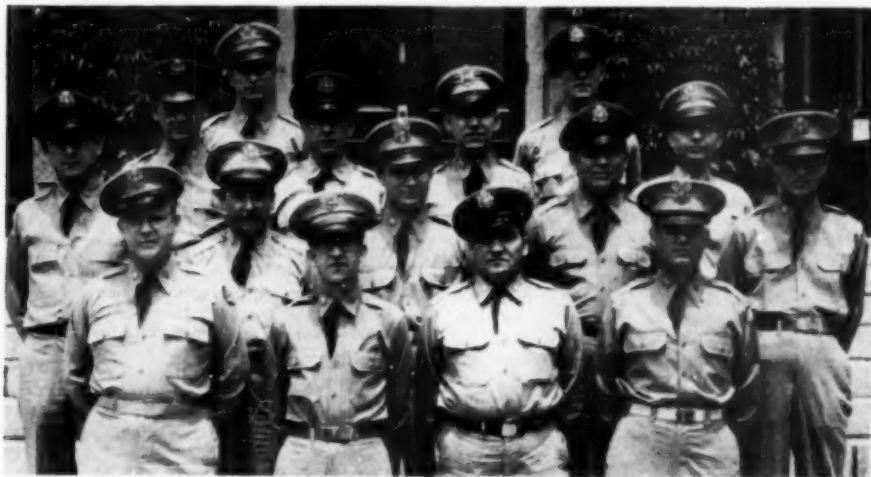
## DEATHS

**E. M. Bitgood** (ONT '10), Middletown, Conn., died Jan. 20, 1952. Dr. Bitgood had practiced in Middletown for more than forty years.

**Cyril B. Caldwell** (ONT '49), 36, Vancouver, B.C., died on April 20, 1952. After serving with the R.C.A.F. during World War II, Dr. Caldwell was appointed manager and veterinarian of the Harrisville Company Development in Eleutera, Bahamas, and later he conducted a practice at Courtney, B.C. At the time of his death, he was on the staff of the Dominion Laboratory of Animal Pathology, Vancouver, B.C.

**Lewis J. Caskey** (GR '17), Harbor Springs, Mich., died in March, 1952. Dr. Caskey was a general practitioner.

**Joseph C. Christiansen** (CVC '09), 70, Mt.



The 15 officers of the Army Veterinary Corps who completed the advanced course in veterinary medicine at the Army Medical Service Graduate School.

First row (left to right)—Lt. Col. Conley C. Isenberg, Lt. Col. Howard C. Masey, Lt. Col. John Gale, and Capt. William A. Bridenstine.

Second row—Major Burton C. Christopher, Major Charles B. Frank, Major Merida W. Castleberry, Major Seidel Stephens, and Major William G. Sullivan.

Third row—Major Buford F. Bridges, Lt. Col. William G. Phifer, Capt. Lorenz L. Beuschel, and Major William A. Nusser.

Last row—Major Elwin R. Prather, and Major Omar G. Wernitz.

Vernon, S. Dak., died May 10, 1952. Dr. Christiansen practiced in Mt. Vernon until 1933 and then joined the Bureau of Animal Industry. For eight years, he headed a brucellosis laboratory at Jacksonville, Fla. He retired in 1951 and returned to Mt. Vernon. Dr. Christiansen is survived by his widow and daughter.

**Arthur S. Clark** (CVC '04), 71, Stoneham, Mass., died March 18, 1952. Dr. Clark had retired from active practice.

**Thomas E. Cowgill** (OSU '09), 66, Millersburg, Ohio, died Jan. 15, 1952. Dr. Cowgill practiced at Delaware, Ohio, until 1939, when he retired to become highway negotiator for the state.

**A. Edwin Dennis** (ONT '96), Stettler, Alta., died in February, 1952. Dr. Dennis was a general practitioner.

**Raymond W. Dold** (CIN '20), Cincinnati, Ohio, died recently. Dr. Dold was a small animal practitioner.

**Frank J. Dondanville** (CVC '06), 77, Dodge City, Kan., died Jan. 26, 1952, after a prolonged illness. Dr. Dondanville had practiced in Dodge City for forty-five years.

**William H. Ferguson** (GR '05), Haslett, Mich., died April 26, 1952. Dr. Ferguson practiced in Ionia, Mich., and moved to Haslett when he retired.

**Otto H. Gebhardt** (ONT '94), Cheboygan, Mich., died May 24, 1952.

**A. R. Gissendanner** (API '18), 63, Dothan, Ala., died May 4, 1952. Dr. Gissendanner was a general practitioner. He was a member of the AVMA.

**Lemon Good** (IND '15), Sandborn, Ind., died late in 1951. Dr. Good was a general practitioner.

**Fred W. Graves** (IND '11), 62, Albany, N. Y., died on May 6, 1952. Dr. Graves, in cooperation with representatives of the New York City Department of Health and Cornell University, conducted a five-year study on better housing of dairy cattle. Under his guidance, many improved methods of cattle management were introduced, resulting in savings to dairymen and improvement in the quality of milk for consumers.

Outstanding in his chosen profession, his cordial relationship with his co-workers and his recognized leadership in the field of milk sanitation made for Dr. Graves many friends throughout the country. He was admitted to the AVMA in 1912.

**Isaac S. McAdory** (API '04), 69, Auburn, Ala., died of a heart attack on July 5. An obituary will appear in the September JOURNAL.

**S. B. Manning** (KCV '07), 65, David City, Neb., died Aug. 16, 1951. Dr. Manning practiced in David City for forty-four years. He is survived by a son and a daughter.

**Franklin L. Moyer** (OSU '08), 68, Carey, Ohio, died Jan. 8, 1952. Dr. Moyer had practiced in Carey for forty-four years. During the past eight years, he had also served as city meat inspector for Toledo.

**William A. Naylor** (HAR '93), 80, Boston, Mass., died May 10, 1952. Dr. Naylor had retired from general practice.

**Burton A. Perry** (GR '12), 74, Hastings, Mich., died June 4, 1952. Dr. Perry was well known as a civic leader in Hastings and Barry County and served as mayor of Hastings from 1924 to 1930. A general practitioner, he had practiced in Hastings for thirty-seven years, retiring in 1950 due to ill health. He is survived by his widow, three sons, and two daughters. He had been a member of the AVMA.

**Bernard L. Poole** (USC '12), Herndon, Va., died Oct. 17, 1951. Dr. Poole was general practitioner.

**H. E. Rea** (OVC '02), 74, West Branch, Mich., died March 16, 1952. Dr. Rea was a general practitioner. He was admitted to the AVMA in 1929.

**Lewis H. Reynolds** (CVC '15), Port Byron, Ill., died Jan. 31, 1952. Dr. Reynolds was a general practitioner.

**Frank L. Roach** (CVC '04), 77, Preston, Iowa, died March 26, 1952, of a heart attack. Dr. Roach had practiced in Preston for forty-eight years.

**Francis G. Roth** (IND '16), Crown Point, Ind., died in April, 1952. Dr. Roth was a general practitioner.

**Howard J. Shore** (GWU '11), Fort Dodge, Iowa, died June 19, 1952. Dr. Shore was director of the biological laboratory at Fort Dodge Laboratories, Inc. He was admitted to the AVMA in 1911. An obituary appears on page 137 of this issue of the JOURNAL.

**Allen L. Smith** (KCV '16), Plainfield, Iowa, died March 4, 1952. Dr. Smith had retired from practice.

**H. W. Steele-Bodger** (EDN '22), 56, Tamworth, Staffordshire, England, died in January, 1952. Dr. Steele-Bodger, a general practitioner, was a member of the council, Royal College of Veterinary Surgeons; past-president of the National Veterinary Medical Association (England); and a member of the Royal Society of Medicine. He was admitted to the AVMA in 1942.

**H. L. Strandberg** (ISC '31), 48, Glenwood, Minn., died Oct. 15, 1951. Dr. Strandberg was a member of the AVMA.

**Claude M. Weber** (IND '16), 56, Oakville, Ind., died June 1, 1952. Dr. Weber had been in charge of inspection at the Evansville Stockyards for several years. He was a member of the Indiana Veterinary Medical Association and of the AVMA.

★Indicates members of the AVMA.

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## COMING MEETINGS

Notices of Coming Meetings must be received by 4th of month preceding date of issue

- Michigan State Veterinary Medical Association. Annual meeting. Durand Hotel, Flint, Mich., Aug. 19-20, 1952. Glen Reed, 715 Merrill Ave., Lansing, Mich., secretary.
- American Society of Parasitologists. Annual meeting. New York State Veterinary College, Cornell University, Ithaca, N. Y., Sept. 7-10, 1952. A. C. Walton, Knox College, Galesburg, Ill., secretary. For reservations and information, write Dr. Donald W. Baker, New York State Veterinary College, Ithaca, N. Y.
- Northeast Mississippi Veterinary Medical Association. Annual clinic. Dr. W. L. Stroup's Clinic, Corinth, Miss., Sept. 9, 1952. W. C. Anderson, Macon, Miss., secretary.
- New York State Veterinary Medical Society. Annual meeting. Sagamore Hotel, Bolton Landing, Lake George, N. Y., Sept. 9-12, 1952. J. S. Halat, 804 Varick St., Utica, N. Y., executive secretary.
- Canadian Veterinary Medical Association. Fourth annual convention. The Algonquin, St. Andrews by-the-sea, New Brunswick, Canada, Sept. 15-17, 1952. A. B. Wickware, 1031 Carling Ave., Ottawa, Canada, executive secretary.
- Northern Illinois Veterinary Medical Association. Annual fall meeting. Hotel Faust, Rockford, Ill., Sept. 17, 1952. L. W. Derr, Mount Carroll, Ill., secretary.
- Purdue University. Annual short course for veterinarians. Purdue University, Lafayette, Ind., Oct. 1-3, 1952. L. M. Hutchings, Purdue University, chairman, short course committee.
- Pennsylvania State Veterinary Medical Association. Annual meeting. Pocono Manor Inn, Pocono Manor, Pa., Oct. 7-10, 1952. Dr. R. C. Snyder, Walnut St. and Copley Rd., Upper Darby, Pa., secretary.
- Eastern Iowa Veterinary Association. Annual meeting. Montrose Hotel, Cedar Rapids, Iowa, Oct. 9-10, 1952. N. R. Waggoner, Olin, Iowa, secretary.
- American Public Health Association. Annual meeting. Public Auditorium, Cleveland, Ohio, Oct. 20-24, 1952. Dr. Reginald M. Atwater, American Public Health Association, 1790 Broadway, New York, N. Y., executive secretary.
- Minnesota, University of. Annual short course. University Farm, St. Paul, Minn., Oct. 23-24, 1952. J. P. Arnold, University of Minnesota, chairman of short course committee.
- United States Livestock Sanitary Association. Annual meeting. Hotel Seelbach, Louisville, Ky., Oct. 29-31, 1952. R. A. Hendershott, 1 West State St., Trenton 8, N. J., secretary. Copies of the Annual Proceedings of the U. S. L.S.A. are available at \$5 per copy.
- Southern Veterinary Medical Association. Annual meeting. Hotel Heidelberg, Jackson, Miss., Nov. 17-19, 1952. A. A. Husman, Raleigh, N. Car., secretary.
- Animal Care Panel. Annual meeting. University of Illinois, Chicago Professional Colleges, Chicago, Ill., Dec. 3-4, 1952. Bennett J. Cohen, Northwestern University Medical School, 303 E. Chicago Ave., Chicago 11, Ill., secretary.
- New York State Veterinary College. Annual conference for veterinarians. New York State Veterinary College, Cornell University, Ithaca, N. Y., Jan. 7-9, 1953. W. A. Hagan, dean.
- Indiana Veterinary Medical Association. Annual meeting. Hotel Severin, Indianapolis, Ind., Jan. 14-16, 1953. W. W. Garverick, Zionsville, Ind., secretary.
- Minnesota State Veterinary Medical Society. Annual meeting. Nicollet Hotel, Minneapolis, Minn., Jan. 26-28, 1953. B. S. Pomerooy, St. Paul 1, Minn., secretary.
- Intermountain Veterinary Medical Association. Annual meeting. Newhouse Hotel, Salt Lake City, Utah, Jan. 19-21, 1953. H. F. Wilkins, Montana Livestock Sanitary Board, Helena, Mont., chairman, program committee.
- California State Veterinary Medical Association. Midwinter Annual meeting, Davis, Calif., Jan. 26-28, 1953. W. J. Zontine, 1014 Yucca Ave., Lancaster, Calif., program chairman.
- Illinois State Veterinary Medical Association. Annual meeting. Hotel Sherman, Chicago, Ill., Jan. 28-30, 1953. A. G. Misener, 6448 North Clark St., Chicago 26, Ill., secretary.
- American Veterinary Medical Association. Annual meeting. Royal York Hotel, Toronto, Canada, July 20-23, 1953. J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.

### Regularly Scheduled Meetings

- Bay Counties Veterinary Medical Association, the second Tuesday of each month. Richard L. Stowe, 149 Otsego Ave., San Francisco, Calif., secretary.
- Cedar Valley Veterinary Association, the second

(Continued on p. 34)





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(COMING MEETINGS—Continued from p. 32)

Monday of each month (except July and August) at Black's Tea Room, Waterloo. F. E. Brutsmann, Traer, Iowa, secretary.

Central California Veterinary Medical Association, the fourth Tuesday of each month. W. E. Smith, 516 Oatman, Sanger, Calif., secretary.

Central Carolina Veterinary Medical Association, the second Wednesday of each month at 7:00 p.m. in the O'Henry Hotel in Greensboro. Mr. Earl D. Adams, Greensboro, N. Car., secretary.

Chicago Veterinary Medical Association, the second Tuesday of each month. Robert C. Glover, 1021 Davis St., Evanston, Ill., secretary.

Coon Valley Veterinary Association, the second Wednesday of each month, September through May, at the Bradford Hotel, Storm Lake, Iowa. V. D. Ladwig, Sac City, Iowa, secretary.

Cuyahoga County (Cleveland, Ohio) Veterinary Medical Association, the first Wednesday of each month—September through May (except January)—at 9:00 p.m. at the Carter Hotel, Cleveland, Ohio. Roger W. Grundish, 4217 Mayfield Road, South Euclid 21, Ohio, secretary.

East Bay Veterinary Medical Association, bi-monthly, the fourth Wednesday. Robert Clemens, 23352 Orchard, Hayward, Calif., secretary.

Fayette County Veterinary Association, Iowa, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Florida, North-East Florida Veterinary Medical Association, the second Thursday of each month, time and place specified monthly. J. O. Whiddon, 829 San Marco Blvd., Jacksonville, Fla.

Greater St. Louis Veterinary Medical Association. Ralston-Purina Research Building, St. Louis, Mo., the first Friday in February, April, June, and November. W. C. Schofield, Dept. of Animal Pathology, Ralston-Purina Co., St. Louis 2, Mo., secretary.

Houston Veterinary Medical Association, Houston, Texas, the first Thursday of each month. Edward Lepon, Houston, Texas, secretary-treasurer.

Illinois Valley Veterinary Medical Association, the second Sunday evening of even-numbered months at the Jefferson Hotel, Peoria, Ill. S. M. McCully, Lacon, Ill., secretary.

Indiana Tenth District Veterinary Medical Association, third Thursday of each month. L. A. Snider, New Palestine, Ind., secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday evening of

(Continued on p. 38)

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- 4**—Marketing pigs 2 to 3 weeks earlier.
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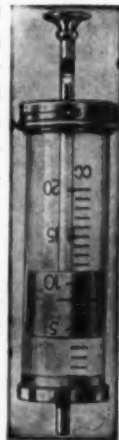
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## New Officers of Allied Laboratories

Mr. C. N. Angst, treasurer of Allied Laboratories, Inc., resigned his post in March after completing sixteen years in office. He will continue to serve as a member of the board of directors. Mr. J. L. McKee of Allied Laboratories' Kansas City office was elected to succeed Mr. Angst, and also was elected president. Mr. McKee became associated with Allied Laboratories, Inc., in 1934.

Mr. J. T. Cahill was elected an assistant secretary. Since joining the company in 1939, he has served in the accounting and tax department of the Kansas City office.

## DIRECT HEAT ELECTRIC

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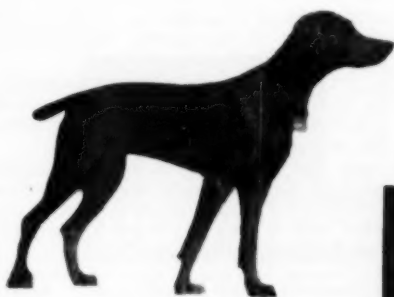
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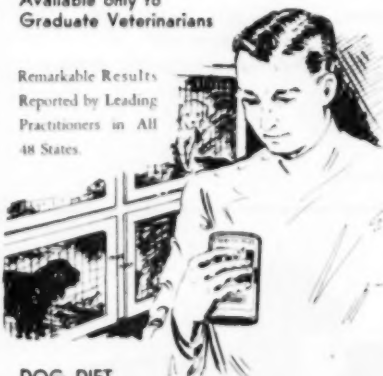
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(COMING MEETINGS — Continued from p. 34)

each month, in Louisville or within a radius of 50 miles. F. M. Kearns, 3622 Frankfort Ave., Louisville 7, Ky., secretary.

Kansas City Small Animal Hospital Association, the first Monday of each month, at the Hotel Continental. T. M. Eagle, Parkville, Route 2, Mo., secretary.

Kansas City Veterinary Medical Association, the third Tuesday of each month, in the Hotel Continental, 11th and Baltimore, Kansas City, Mo. K. M. Curtis, 70 Central Ave., Kansas City 18, Kan., secretary.

Kern County Veterinary Medical Association, the first Thursday of each month. Richard A. Stiern, 17 Niles St., Bakersfield, Calif., secretary.

Keystone Veterinary Medical Association, the Philadelphia County Medical Society Building, 301 S. 21st Street, Philadelphia, Pa., on the fourth Wednesday of each month. Raymond C. Snyder, 39th and Woodland Ave., Philadelphia 4, Pa., secretary.

Kyowva Veterinary Medical Association, the second Thursday of each month in the Hotel Prichard, Huntington, W. Va., at 8:30 p.m. Karl Mayer, 1531 Fourth Ave., Huntington, W. Va., secretary.

Maricopa County Veterinary Association, the second Tuesday of each month. Charles J. Prehal, 1722 East Almeria Road, Phoenix, Ariz., secretary.

Metropolitan New Jersey Veterinary Medical Association, the third Wednesday night of each month from October through June, at the Hotel Essex House, Newark, N. J. Myron S. Arlein, 2172 Millburn Ave., Maplewood, N. J., secretary.

Michiana Veterinary Medical Association, the second Thursday of each month. Write M. L. Livingston, Hartford, Mich., secretary, for location.

Michigan, Southeastern Veterinary Medical Society. Herman Kiefer Hospital, Detroit, Mich., the second Wednesday of each month from October through May.

Mid-Coast Veterinary Medical Association, the first Thursday of every even month. C. Edward Taylor, 2146 S. Broad St., San Luis Obispo, Calif., secretary.

Milwaukee Veterinary Medical Association. Wisconsin Humane Society, 4150 N. Humbolt Ave., Milwaukee, Wis., the third Tuesday of each month. Kenneth G. Nicholson, 2161 N. Farwell Ave., Milwaukee, Wis., secretary.

Mobile-Baldwin Veterinary Medical Association, the first Tuesday of each month at the Hotel Admiral Simmes, Mobile, Ala. C. Eric Kennedy, Mobile, Ala., secretary.

(Continued on p. 40)



# Friskies

Authoritative information on the scientific care and feeding of dogs. **No. 13**  
Published by Albers Milling Company (a division of Carnation Company) under the supervision of Dr. E. M. Gildow, B.S., M.S., D.V.M., Director of Research.

## DOG RESEARCH NEWS

### Effect of Diet on Diarrhea

Many features of the diet may cause diarrhea in dogs. One of these is excessive fibre or indigestible material.



In their diet of Friskies, a complete food, these puppies get a sufficient amount of dried milk. Any additional milk may cause looseness.

Too much lactose often produces diarrhea. Commercial dog foods already contain sufficient milk. Any addition may cause diarrhea.

Black tongue is caused by a deficiency of nicotinic acid. In the latter stages, diarrhea with blood-tinged feces is observed. This is more prevalent where dogs do not get meat, or meat products. Apparently the feeding of excessive amounts of corn predisposes to black tongue, because this extra amount increases the requirements of nicotinic acid (niacin). While commercial dog foods contain appreciable quantities of corn, the niacin supply is amply met. Also, the presence of considerable meat protein reduces the effect of excessive corn.

No evidence indicates that large amounts of well-cooked carbohydrates are responsible for diarrhea. But poorly cooked grains will cause it. And so will excessive amounts of improperly ground grains or flakes that are too thick.

Dietary causes of diarrhea may

be avoided by feeding a dog food like Friskies. The grains in Friskies are carefully processed and pre-cooked before supplements are added. Control of flakes and texture is rigid. There is no excessive fibre. And protein from animal sources is high. 20 years of testing at the Friskies Research Kennels have resulted in a food that is not only complete, but is also properly balanced.

### Tell Them About the Veterinarian

Breeders will agree that one of their responsibilities is to advise dog purchasers to select a veterinarian at once. Chances are the puppy has had only its "booster" shots, and will need permanent inoculations. "Shot time" presents a good opportunity for the owner to get to know the veterinarian.



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It is also a responsibility of breeders to recommend a diet the puppy will thrive on. The complete nourishment of a food like Friskies will contribute its full share toward keeping the dog in good health.

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(COMING MEETINGS—Continued from p. 58)

Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. C. Edward Taylor, 2146 South Broad St., San Luis Obispo, Calif., secretary.

New Castle County Veterinary Society, the second Wednesday of each month at 9:00 p.m. in the Hotel Rodney, Wilmington, Del. Harold Roberts, Paper Mill Road, Newark R3, Del., secretary.

New York City, Veterinary Medical Association of, the first Wednesday of each month at the New York Academy of Sciences, 2 East 63 St., New York City. C. R. Schroeder, Lederle Laboratories, Inc., Pearl River, N. Y., secretary.

Northern New Jersey Veterinary Association, the fourth Tuesday evening from September through June, at the Casa Mana Restaurant, Cedar Lane, Teaneck, N. J. Robert R. Shomer, 1680 Teaneck Road, N. J., secretary.

Northern San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month. Tom Hagan, Gen. Del., Escalon, Calif., secretary.

Orange Belt Veterinary Medical Association, the second Monday of each month. Clark Stillinger, 1742 E. Holt Ave., Pomona, Calif., secretary.

Orange County Veterinary Medical Association, bi-monthly. Donald E. Lind, 2643 N. Main, Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. P. H. Hand, Box 1035, Millbrae, Calif., secretary.

Piedmont Veterinary Medical Association, the last Friday of each month at 7:00 p.m. in Mull's Motel in Hickory, N. Car. C. N. Copeland, Hickory, N. Car., secretary.

Pima County (Arizona) Veterinary Medical Association, the third Wednesday of each month, in Tucson. R. W. Adami, 2103 S. 6th Ave., Tucson, Ariz., resident secretary.

Portland (Oregon) Veterinary Medical Association, the second Tuesday of each month, in the Auditorium of the Upjohn Company. Robert L. Hawley, 1001 N. W. Fourteenth Ave., Portland, Ore., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. John McChesney, 40 6th St., Petaluma, Calif., secretary.

Roanoke-Tar (N. Car.) Veterinary Medical Association, the first Friday of each month, time and place specified monthly. B. H. Brow, Weldon, N. Car., secretary.

Sacramento Valley Veterinary Medical Association, the second Wednesday of each month. S. M. Foster, 430 College, Woodland, Calif., secretary.

(Continued on p. 42)

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Saginaw Valley Veterinary Medical Association, the last Wednesday of each month. H. W. Harper, Flint Health Department, Flint, Mich., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. Warren J. Dedrick, 904 S. Lemon, El Cajon, Calif., secretary.

Santa Barbara-Ventura Counties Veterinary Medical Association, the second Friday of even months. Joe Ridgway, 1784 Thompson Blvd., Ventura, Calif., secretary.

South Florida Veterinary Society, the third Tuesday of each month, 8:00 p.m., at the Peckway Skeet Club, Robert P. Knowles, 2936 N.W. 17th Ave., Miami, Fla., secretary.

Southern California Veterinary Medical Association, the third Wednesday of each month. R. W. Sprowl, 11756 San Vicente Blvd., Los Angeles 49, Calif., secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month, in Director's Parlor of the Brookside State Bank, Tulsa, Okla. John Carnes, Muskogee, Okla., secretary.

#### Foreign Meetings

Second International Congress of Physiology

and Pathology of Animal Reproduction and of Artificial Insemination. The Royal Veterinary and Agricultural College, Copenhagen, Denmark, July 7-11, 1952. Ed. Sorensen, the Royal Veterinary and Agricultural College, Bulowsvej 13, Copenhagen V, Denmark, secretary general.

Fifteenth International Veterinary Congress. Stockholm, Sweden, Aug. 9-15, 1953. Dr. L. de Blicke, Soestdijkseweg 113N., Bilthoven, Netherlands, secretary. Permanent Committee. (U. S. Committee: Dr. W. A. Hagan, N. Y. State Veterinary College, Ithaca, N. Y., chairman; Dr. J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill., secretary.)

Dr. O. N. Strock, Orangeburg, S. Car., reports another case of twin calves born eight days apart and doing well.



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*(Continued on p. 48)*



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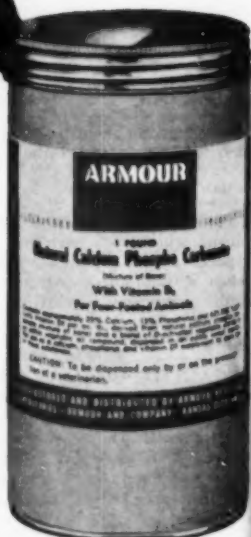
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(Continued on p. 50)

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<sup>1</sup> Fitzgerald, S. A. and DeCamp, D., Vet. Med., November 1950.

2. Ibid.

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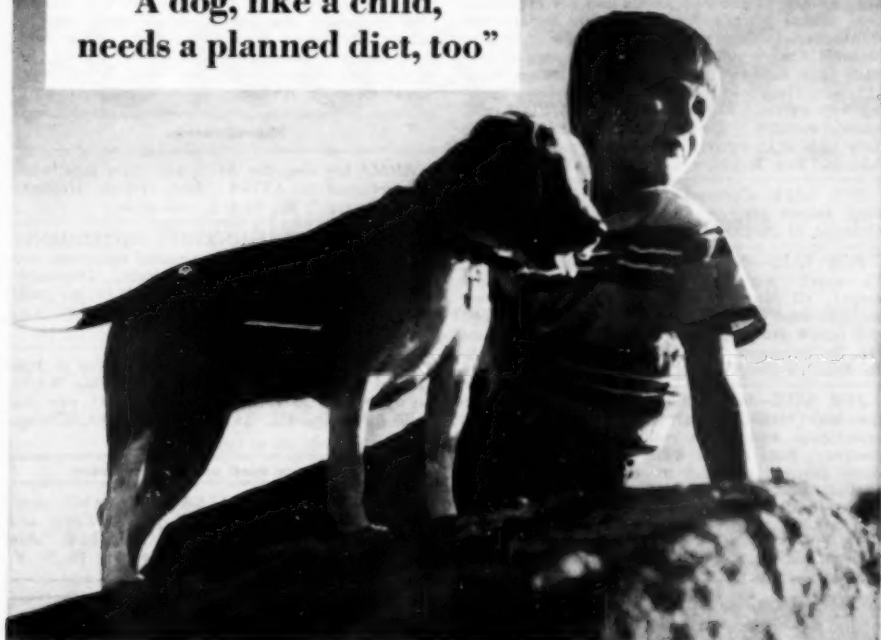


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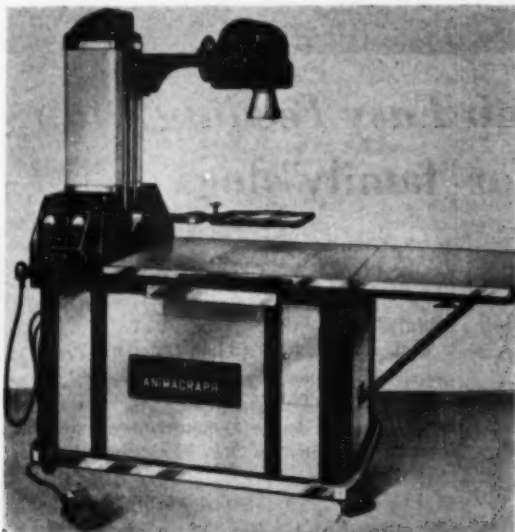
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Dr. William L. Ingalls

Dr. Ingalls has headed the firm's new research laboratory since last October. Immediately prior to joining The Columbus Serum Company in 1951, he was in charge of the veterinary diagnostic laboratory at Ohio State University.

### Research Grants Awarded

Two Sharp & Dohme research grants totaling \$5,100 have been announced by Dr. L. Earle Arnow, director of research.

One grant of \$3,600, awarded to Dr. Arthur C. Cope, Department of Chemistry, Massachusetts Institute of Technology, will be used for applied research in new fields of organic chemistry.

Dr. Robert Graham, dean of the College of Veterinary Medicine, University of Illinois, is the recipient of a \$1,500 grant. It is to be used in the support of studies on the value of sulfonamides, antibiotics, and other agents in the treatment of diseases of domestic animals and poultry.



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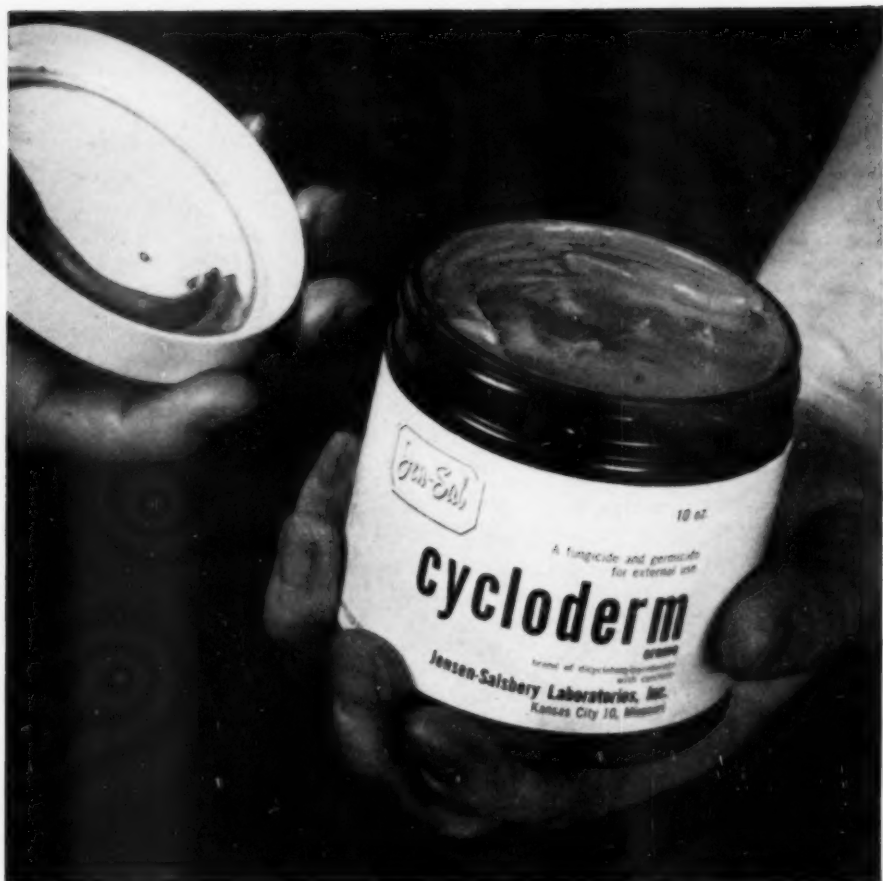
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